

September 21, 2022

Jorge Acevedo, P.E.
Utilities & ROW Division Chief / Utilities Director
City of Coral Gables
Department of Public Works
2800 SW 72nd Avenue
Miami, FL 33155

Re: Outside Sewer Connection Agreement for the new University of Miami Frost Institute of Chemistry & Molecular Science Building Project
UM PROJECT # C741
HJ COMM #17051.01

Dear Mr. Acevedo,

Please accept this letter to commence the necessary process for the City to review and approve the sewer connection for the above-referenced property, by a connection to an existing private lift station (UM-04D). This new property is outside of the sanitary sewer system but within City limits.

The University of Miami (UM) has provided the request letter of agreement (see attached) for your review and to be included in the new City Commission meeting for approval. Based on the following email from Alberto Herrera, PE, project Civil Engineer, the project has a projected average flow of 10,382 gallons per day, and a peak flow of 1,834 gallons per hour (a 4.24 peak factor was used for this flow).

If you have any questions don't hesitate to contact us.
Sincerely,

HARVARD•JOLLY ARCHITECTURE

A horizontal redaction mark consisting of several thick, dark blue lines.

Bobby Cresap, RA - Senior Associate

CC: Jessica E. Brumley - UM

From: [Bobby Cresap](#)
To: [Bobby Cresap](#)
Subject: FW: UM FICMS - Sewer Agreement
Date: Wednesday, September 21, 2022 10:40:23 AM

From: Herrera, Alberto <alberto.herrera@kimley-horn.com>
Sent: Wednesday, September 14, 2022 11:40 AM
To: Jorge Hernandez-Ortiz <jhernandez@sharpeproj.com>
Cc: Bobby Cresap <B.Cresap@harvardjolly.com>; Yann Weymouth <Y.Weymouth@harvardjolly.com>; mdi21@miami.edu; Nivardo Beaton <nbeaton@sharpeproj.com>
Subject: RE: UM FICMS - Sewer Agreement

The average daily flow was calculated as 86,250 sf x 12 gpd/100 sf (unit rate per MDWASD) = 10,382 gpd.

The peak flow was calculated as 4.24 (peaking factor) x 10,382 gpd/24 hours = 1,834 gph.

Sincerely,



We've Moved!

As of August 29, 2022, we are at our new location:
2 Alhambra Plaza, suite 500, Coral Gables, FL 33134

Our phone numbers will remain the same.

Alberto Herrera, P.E., LEED AP

Kimley-Horn |

Direct: (305) 535-7742 | Mobile: (305) 283-4065

Celebrating 14 years as one of FORTUNE's 100 Best Companies to Work For

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For any signed and sealed plans or final deliverables, if there are discrepancies between the Files and the hardcopy of the Files prepared by Kimley-Horn, the hardcopy shall govern. Only printed copies of such documents conveyed by Kimley-Horn may be relied upon. Any use of these electronic Files will be at the Receiving Party's sole risk. Receiving Party accepts the Files on an "as is" basis with all faults.



September 21, 2022

Jorge Acevedo, P.E.
Utilities & ROW Division Chief / Utilities Director
City of Coral Gables
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2800 SW 72nd Avenue
Miami, FL 33155

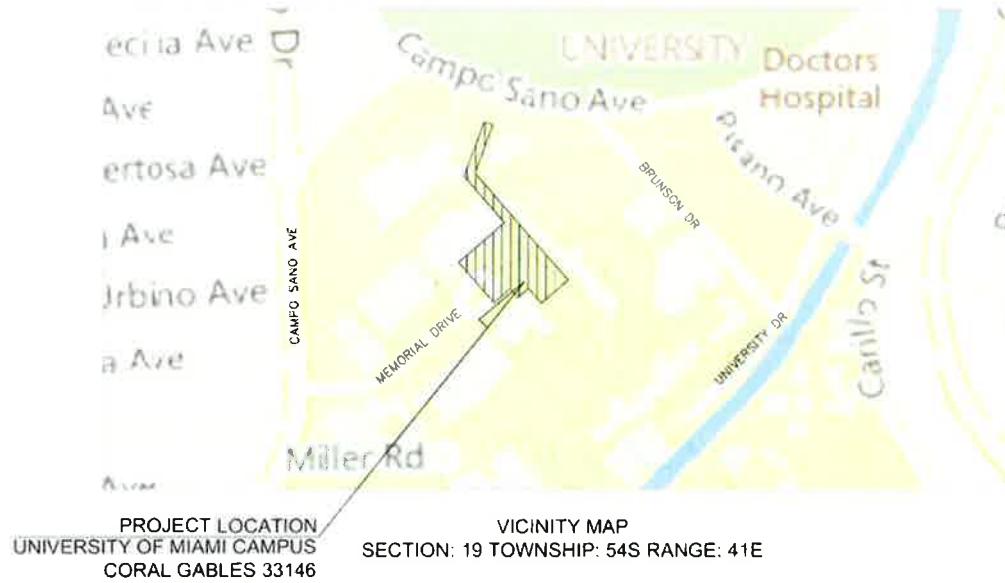
Re: Outside Sewer Connection Agreement for the new University of Miami Frost Institute of Chemistry of Molecular Science Building Project

Dear Mr. Acevedo,

Pursuant to the City of Coral Gables Code Sec. 78-106, the University of Miami is kindly requesting permission to commence the necessary process for the approval of an outside sewer connection to the City of Coral Gables sanitary sewer system for the above-referenced project, by means of a connection to an existing force main tap.

The following information pertains to the project:

- Applicant: University of Miami
- Address: 1535 Levante Avenue Coral Gables, FL 33146
- Telephone: 305.284.6749
- Property Address: 1201 Memorial Drive Coral Gables, FL 33146
- Legal Description: All that Lot, piece, tract, or parcel of land situate, lying, and being Section 19 Township 54 South, Range 41 East, City of Coral Gables, Miami-Dade County, Florida, comprising a portion of Tr. 2 of "Amended Plat portion of Main Campus University of Miami", according to the Plat thereof, as recorded June 30, 1948, in Plat Book 46 at Page 81 of the Public Records of Dade County (Now Miami-Dade County), Florida, the location of which being more particularly shown on the survey map below.



- Government Agency having Jurisdiction: Enclosed please find copy of the Department of Regulatory and Economic Resources "DERM" approved sewer plans and permit for the construction of a domestic wastewater collection/transmission system and the subsequent sewer connection to the City's system. Also, please find attached a copy of the FDEP sewer application reflecting the project flows.
- Proposed additional flows to the City of Coral Gables sewer system:
 - o Maximum: 1,834.2 GPH
 - o Minimum: 0 GPD
 - o Average: 10,382 GPD

By this letter, The University (applicant) intends to comply with the conditions set forth under the following Chapters 26 and 78 of the City Code, and the terms and conditions that will be stipulated in the Agreement between the City of Coral Gables and the University.

- (1) To pay a connection fee of \$2,100.00 per 1,000 gallons per day of peak demand paid concurrently upon signing this agreement. The connection charge shall be made on the basis of an agreed upon estimated gallonage, which shall be subject to review at any time after six months; usage and the final connection cost shall be adjusted to reflect actual usage if greater, but in no case less than the amount originally charged. An alternate method of payment for such sewer service connection charges may be granted whereby, in lieu of paying connection charges at time of execution of the customer agreement, the applicant or customer may be permitted to file with the city a cash bond in an amount to be agreed upon between the city manager and the customer, guaranteeing installment payments of said sewer service connection charges.
- (2) To comply with all conditions set forth under chapters 62 and 78 of the City Code, Resolution No. 22601, and any other pertinent ordinances or resolution, copies of which the applicant/customer has reviewed and fully acknowledged by agreeing hereto, except that

rates applied to connecting outside the city shall be 25 percent greater than the rates applicable to the same connection within the city. If the connection is outside existing sanitary sewer districts but inside the city, the 25 percent additional rate shall not apply.

- (3) To the billing and collecting of sewer service charges as determined by the city. Other agencies, for example the Miami-Dade Water and Sewer Department, may be designated by the city to bill and/or collect sewer service charges. Sewer service charges shall be due within ten days of receipt of billing by the customer. If the sewer service charges remain unpaid 30 days after due date, the city may have water services to the property disconnected. All sewer service charges to any building or structure or unit remaining unpaid 30 days after the due date shall become a lien against and upon the lands to which service has been furnished to the same extent as the lien for special assessments in the city, with the same penalties and the same right of collection and sale as would apply for Coral Gables taxes.
- (4) To pay the entire cost of whatever facilities are required from the source of the sewage to the point of connection with the Coral Gables system.
- (5) To furnish the city attorney with a copy of the deed for each unit of property making outside connection.
- (6) To install and maintain facilities for such pre-treatment of wastes as may from time to time be found necessary to render the wastes suitable for handling and treatment by the city without creation of nuisances. Under operational difficulty, the reasonable determination by the city and the city consulting engineers shall be binding. The following shall be required in all cases:
 - a. Grease separation facilities without exception.
 - b. Comminutors except where flow is directly to a city comminutor.
 - c. Screen at the discretion of the city in case of laundries and similar sources of rags, string and lint.
 - d. Pre-chlorination in case of long force mains.
- (7) To provide the city with plans and specifications in quadruplicate for applicant/customer sanitary sewer facilities as prepared by a registered civil engineer, licensed to practice in the State of Florida and fully experienced and qualified in the design of sanitary sewer systems. Said plans and specifications shall be reviewed by the city and returned to the applicant/customer marked for revision until the plans are returned marked approved and signed as such by the director of public works. A composite plan/profile survey of existing utilities shall be prepared of each Coral Gables right-of-way through which a pipeline run is

proposed, showing the exact relationship between and among all existing and proposed facilities. The city may refuse to process the plans unless the composite picture is complete, so that the most feasible route with the least inconvenience to residents may be confirmed by the director of public works.

- (8) To provide a cut-off valve at the point of connection with the Coral Gables system. This cut-off valve shall be shown and described in the above plans and specifications.
- (9) To provide the city with a letter from said licensed/registered engineer stating that said engineering services have been retained to provide full-time resident inspection during construction and installation of said facilities. Upon completion of the installation, said engineer shall certify in writing that the work has been fully and properly installed, and that infiltration is within allowable limits.
- (10) To have proposed installation shown on said approved plans and specifications constructed and installed only by a fully licensed and qualified contractor who shall also obtain all prerequisite construction permits from each agency having jurisdiction prior to initiating work in the field. The public works director may withhold or withdraw issuance of city right-of-way permit if compliance with portions of Step II implementation by the applicant becomes overdue.
- (11) To keep city informed of work progress and connections inside and outside the city so that city inspectors may confirm the integrity of the facilities at each key point.
- (12) To be solely responsible for continuing maintenance and operation of said facilities. The city reserves the right to inspect the facilities and to require the applicant to have timely repairs made, where infiltration or other defects are adversely affecting the cost and operation of the city's sanitary sewer system. Failure of the applicant/customer to remedy defects shall be cause for termination of agreement and disconnection of the service. The occupants or tenants of the connected property shall be informed by the customer that the city is not responsible for such maintenance and operation.
- (13) To not permit any other connection to the customer's connecting lines to the city system except those listed in the agreement. Any additional connections, if permitted, shall be subject to approval by the city as stated herein and the original connection charge shall be increased to reflect the additional sewage added. Additional connectors shall furnish the city with prior written approval by the original owner of the line and all prior connectors to said line.
- (14) To limit the peak sewage flow from the outside sewer connection insofar as the property, zoning, size, type and/or density of the facility herein approved for connection, and any proposed change thereto which would generate significant increase in peak sewage

discharged into the Coral Gables sanitary sewer system shall require prior approval by Coral Gables for such increased sewage discharge in accordance with the terms of this resolution.

- (15) To provide that the monthly charge computed at the volumetric base rate be multiplied by a value of unity for a monthly average BOD of 250 ppm or under, said value to be increased by a surcharge factor of one-quarter percent per part per million on monthly average BOD in excess of 250 ppm, as follows and as interpolation thereof:

MONTHLY BOD MULTIPLIER

250 ppm or less	1.000
260	1.025
270	1.050
280	1.075
290	1.100
300	1.125
400	1.375
500	1.625
1,000	2.875

- (16) To provide for and bear the cost of sampling with suitable sampling facilities when reasonable cause for sampling exists. The city shall give the customer or tenant reasonable notice when sampling is necessary, and qualified city representatives shall thereafter perform the necessary sampling as efficiently as possible.
- (17) To reconnect to the city sewer system at the customer's expense in a manner acceptable to the city, when sewerizing is completed to a new area in the city which can more efficiently and effectively serve the customer's outside connection.
- (18) To provide liability insurance in the amounts required by Resolution No. 22601, naming the City of Coral Gables as additional insured and covering any damages to public or private property due to a failure in the customer's facilities. A certification of insurance shall be required at the execution of the agreement in a form acceptable to the City of Coral Gables.

- (19) To provide a maintenance bond or other surety in the amount of five percent of the construction cost to assure timely repair of the customer's facilities should a failure occur, said surety to run in perpetuity or until the connection is no longer required.
- (20) To bear the expense of recording the agreement encompassing the above terms in the Public Records of Miami-Dade County, Florida, and said agreement shall be a covenant running with the land which will state that the owner will not convey or cause to be conveyed the title to the above property without requiring the successor in title to abide by all of the terms and conditions of said agreement.

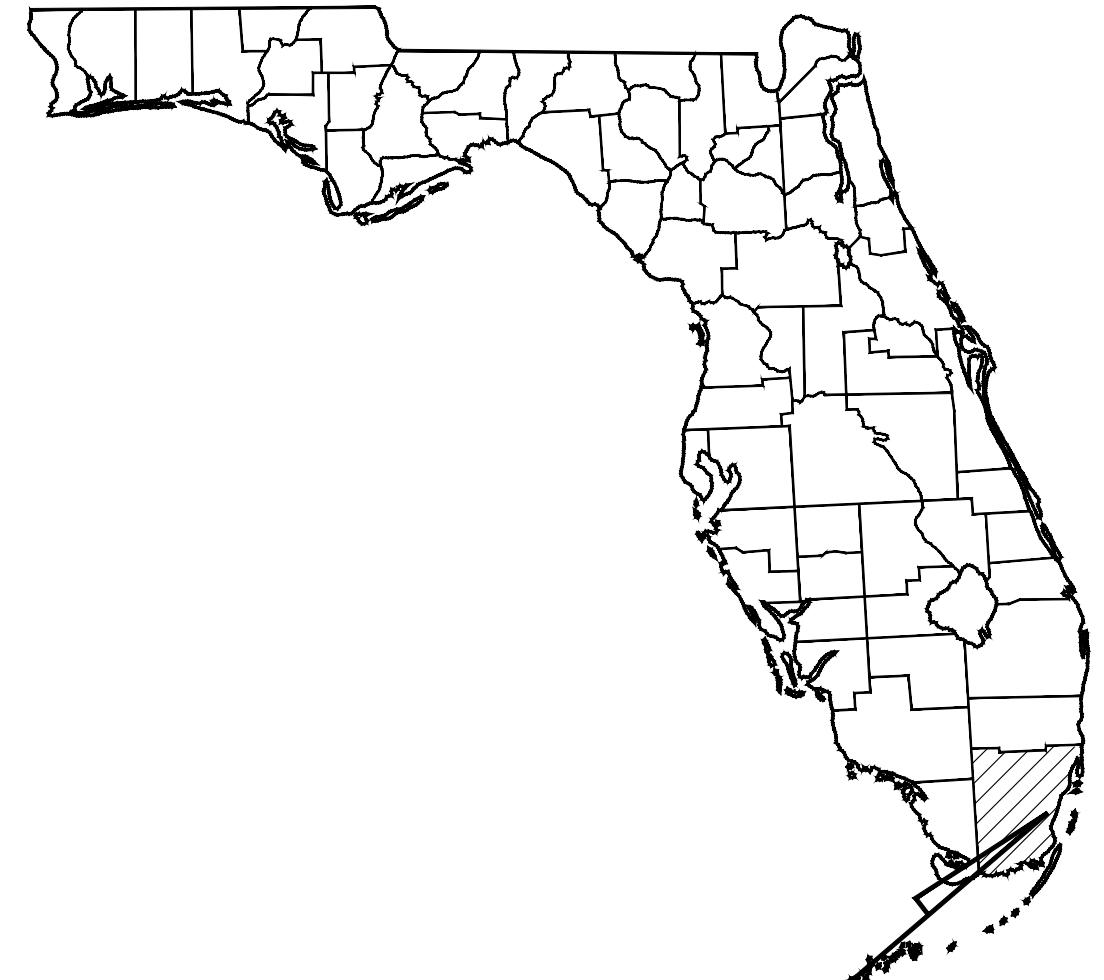
Thank you for your time and consideration.

Sincerely,



Jessica E. Brumley
Vice-President
Facilities Operations & Planning
University of Miami

CONSTRUCTION DOCUMENTS FOR FROST INSTITUTE FOR CHEMISTRY & MOLECULAR SCIENCE PREPARED FOR UNIVERSITY OF MIAMI



PROJECT LOCATION
MIAMI-DADE COUNTY

PROJECT TEAM

DEVELOPER

UNIVERSITY OF MIAMI
535 LEVANTE AVE., SUITE 205
MIAMI, FL 33146
PHONE: (305) 284-6749
CONTACT: GARY TARBE

CIVIL ENGINEER

KIMLEY-HORN & ASSOCIATES, INC.
1615 SOUTH CONGRESS AVENUE, SUITE 201
DELRAY BEACH, FL 33445
PHONE: (561) 330-2345
CONTACT: KIMBERLY P. SEDDON, P.E.

SURVEYOR

ATKINS NORTH AMERICA, INC.
800 WATERFORD WAY
MIAMI, FL 33126
PHONE: (305) 514-3270
CONTACT: DOUGLAS W. DEANS

LANDSCAPE ARCHITECT

HARVARD JOLLY, INC.
2714 DR. MLK JR. STREET N.
ST. PETERSBURG, FL 33704
PHONE: (727) 896-4611

ARCHITECT

HARVARD JOLLY, INC.
2714 DR. MLK JR. STREET N.
ST. PETERSBURG, FL 33704
PHONE: (727) 896-4611

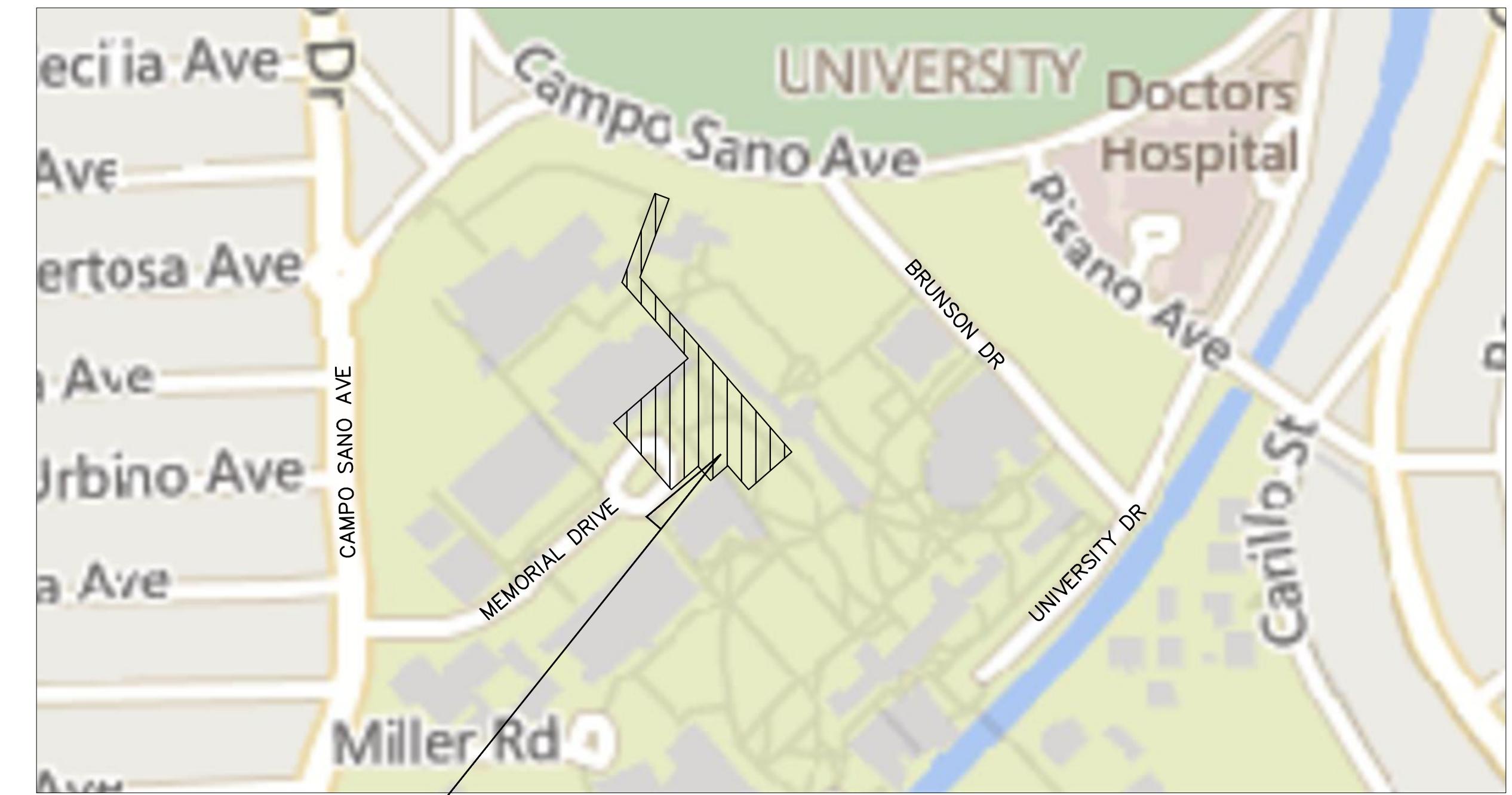
UTILITY CONTACTS

STORMWATER

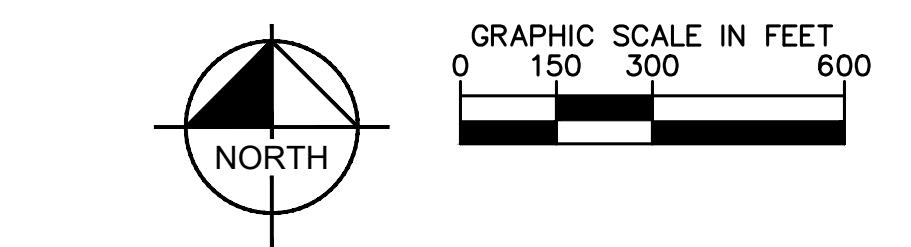
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCE
702 NW 1ST CT., 7TH FLOOR
MIAMI, FL 33136

WATER AND SEWER

MIAMI-DADE WATER AND SEWER DEPARTMENT
3575 S. LEJEUNE RD., ROOM 114
MIAMI, FL 33146



PROJECT LOCATION
UNIVERSITY OF MIAMI CAMPUS
CORAL GABLES 33146



LEGAL DESCRIPTION

ALL THAT LOT, PIECE, TRACT OR PARCEL OF LAND SITUATE, LYING AND BEING SECTION 19,
TOWNSHIP 54 SOUTH, RANGE 41 EAST, CITY OF CORAL GABLES, MIAMI-DADE COUNTY, FLORIDA,
COMPRISING A PORTION OF TR. 2 OF "AMENDED PLAT PORTION OF MAIN CAMPUS UNIVERSITY OF
MIAMI," ACCORDING TO THE PLAT THEREOF, AS RECORDED JUNE 30, 1948 IN PLAT BOOK 46 AT
PAGE 81 OF THE PUBLIC RECORDS OF DADE COUNTY (NOW MIAMI-DADE COUNTY), FLORIDA, THE
LOCATION OF WHICH BEING MORE PARTICULARLY SHOWN ON THE SURVEY MAP ANNEXED HERETO
AND MADE A PART HEREOF.

Sheet List Table	
Sheet Number	Sheet Title
C-000	COVER SHEET
C-100	GENERAL NOTES
C-200	EROSION CONTROL PLAN
C-300	DEMOLITION PLAN
C-400	SITE PLAN
C-401	SITE PLAN
C-450	FIRE DEPARTMENT ACCESS PLAN
C-451	DELIVERY TRUCK ACCESS PLAN
C-500	PAVING, GRADING, & DRAINAGE PLAN
C-501	PAVING, GRADING, & DRAINAGE PLAN
C-550	CROSS SECTIONS
C-551	PAVING, GRADING, & DRAINAGE DETAILS
C-552	PAVING, GRADING, & DRAINAGE DETAILS
C-560	WASH NOTES
C-601	UTILITY PLAN
C-602	UTILITY PLAN
C-603	UTILITY PLAN
C-604	UTILITY PLAN
C-610	WATERMAIN PROFILE
C-611	SEWER PROFILE

APPROVED BY

Miami-Dade County
Department of Regulatory and Economic Resources
Environmental Resources Management
Sewerage Facilities Only

2020 SEW-EXT- 00475 Date: 12/11/2020

For the Director: *[Signature]*

Note: This Approval is not intended to cover structural design

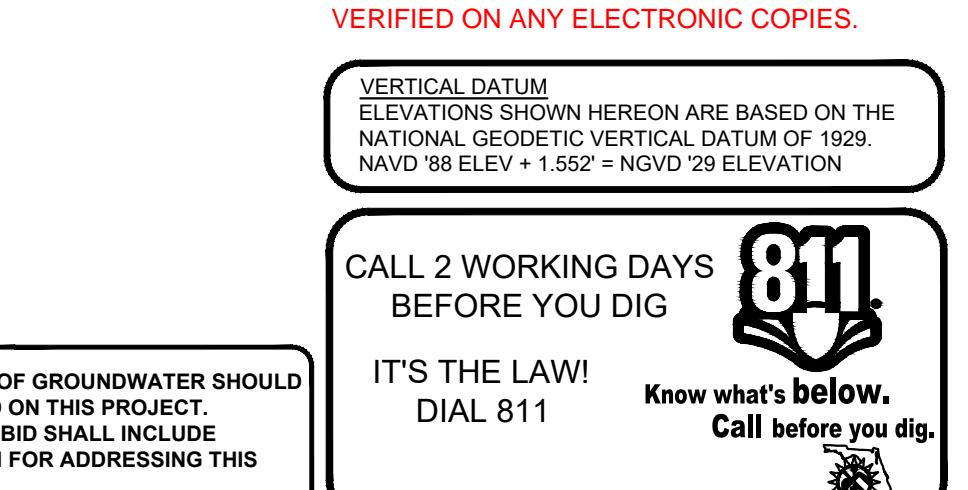
TEST REQUIRED

Permittee MUST notify RER-DERM before field test is performed for:

Exfiltration Pressure Pump Station Start-Up

Note: Refer to Permit Conditions

The proposed flow of 10,382 GPD from the proposed Frost Institute for Chemistry & Molecular Science Building will discharge to PS 77-UM04. The existing flow of 22,944 GPD from the existing J. Neville McArthur Engineering Building will be rerouted to PS 77-UM2B.



HARVARD • JOLLY ARCHITECTURE

AA C00019

Kimley-Horn

UNIVERSITY OF MIAMI

UNIVERSITY OF MIAMI FROST INSTITUTE
FOR CHEMISTRY & MOLECULAR SCIENCE
UM PROJECT # C741

CONSTRUCTION DOCUMENTS
CORAL GABLES, FL 33146

Comm. No: 17051.01
Date: 10/30/2020
Drawn by: KPS
Checked by: KPS

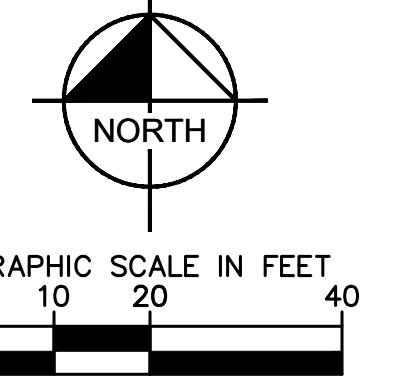
No.	Date	Revision Description
1	4/07/2020	ADDENDUM #1
10	9/29/2020	ADDENDUM #10
11	9/15/2020	ASI #1
12	9/18/2020	ASI #2
13	9/30/2020	ASI #3
14	10/01/2020	ASI #4
16	10/20/2020	ASI #6
18	10/30/2020	ASI #8
20	12/01/2020	ASI #10

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES

KIMBERLY P. SEDDON, LIC. # 89205,
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UTILITY PLAN

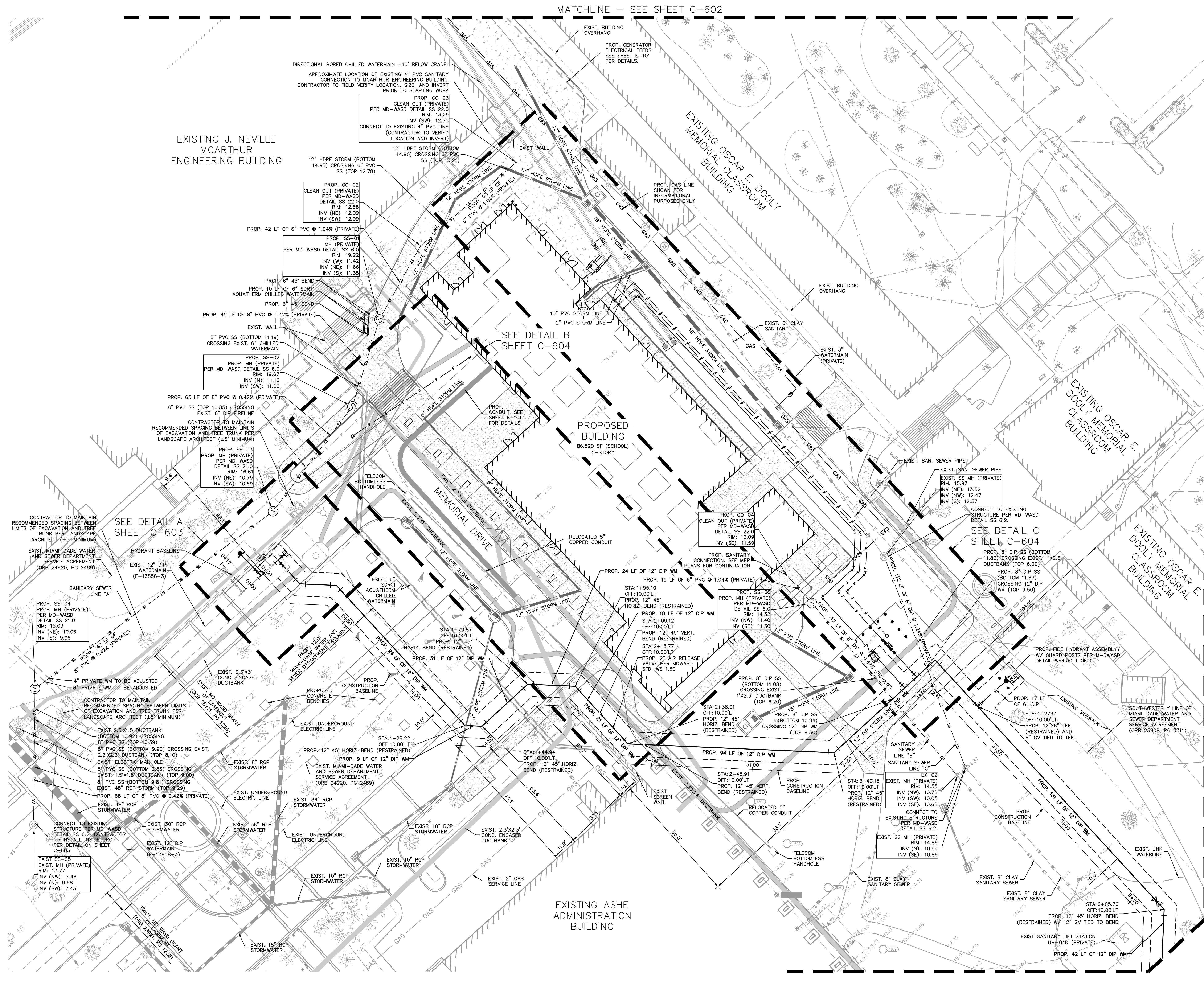
C-601



GRAPHIC SCALE IN FEET

0 10 20 40

- LEGEND
- PROPOSED STORM PIPE
 - PROPOSED SANITARY SEWER PIPE
 - PROPOSED WATER PIPE
 - PROPOSED 12" WATER UTILITY EASEMENT
 - PROPOSED GAS LINE
 - PROPOSED WATER/FIRE STRUCTURES
 - EXISTING ELECTRICAL
 - EXISTING STORM PIPE
 - EXISTING WATER PIPE
 - EXISTING TELECOMMUNICATIONS
 - EXISTING SANITARY SEWER PIPE
 - EXISTING OVERHEAD UTILITY
 - EXISTING CHILLED WATER (WIDTH AS NOTED)
 - EXISTING CHILLED WATER (UNKNOWN WIDTH)
 - EXISTING GAS LINE
 - EXISTING TREE
 - GATE VALVE
 - BUTTERFLY VALVE



MATCHLINE - SEE SHEET C-603

VERTICAL DATUM
ELEVATIONS SHOWN HEREON ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
NAVD '88 ELEV + 1.552' NGVD '29 ELEVATION

KIMBERLY P. SEDDON, LIC. # 89205,
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UTILITY PLAN

CALL 2 WORKING DAYS BEFORE YOU DIG



IT'S THE LAW!
DIAL 811

Know what's below.
Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT.
CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

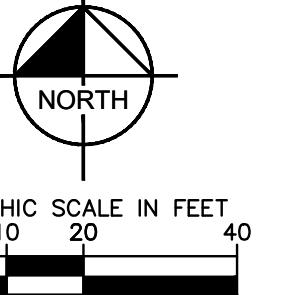
1
NORTH
AA C00019
727-385-4611 | www.HarvardJolly.com

2714 DR. M.L.K. JR. ST. NORTH, ST.
PETERSBURG, FL 33704

HARVARD • JOLLY ARCHITECTURE

7274 DR. MLK, JR. ST., NORTH, ST.
PETERSBURG, FL 33704

AA C00119 | www.HarvardJolly.com | 727-896-4611



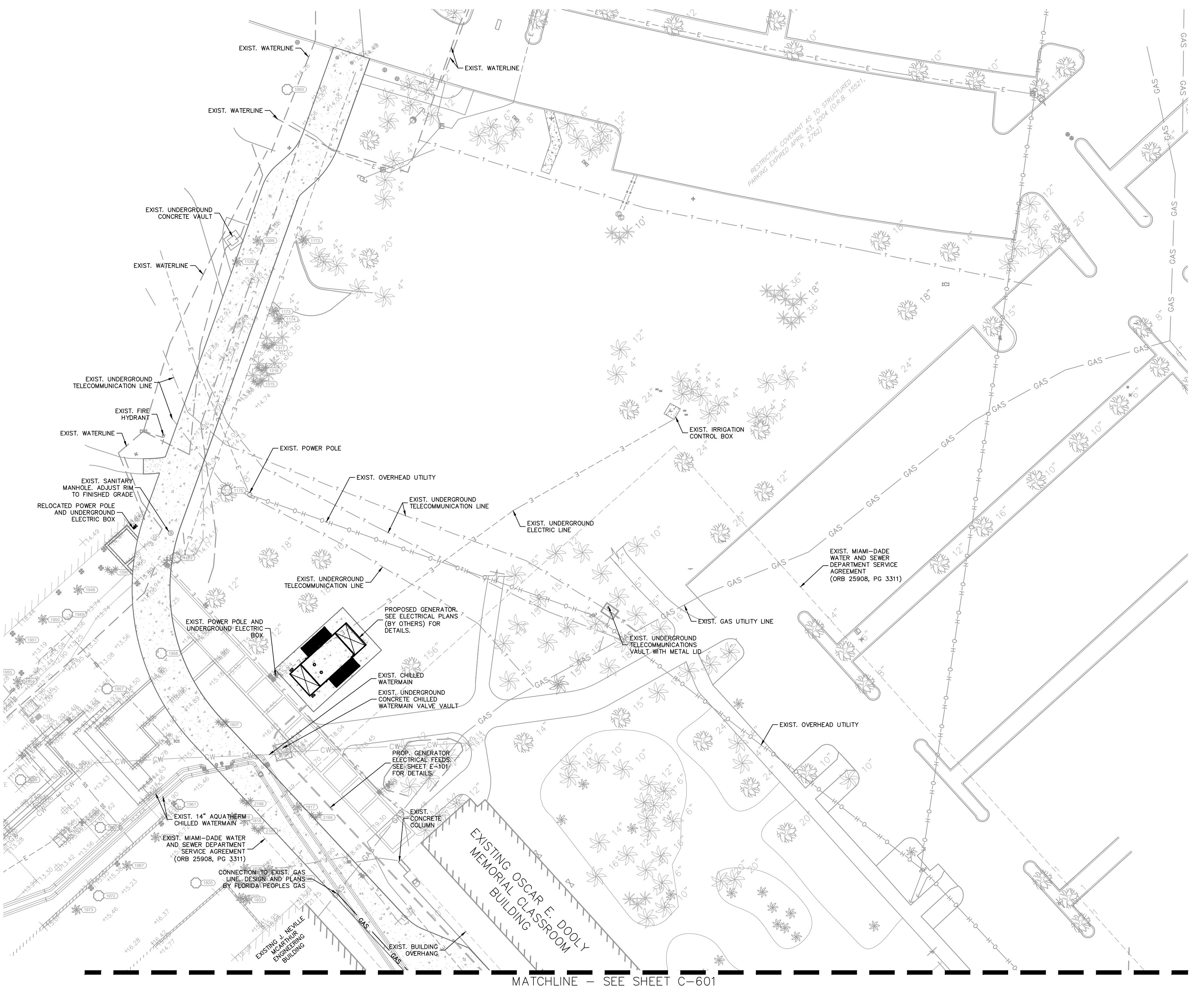
Kimley»Horn

UNIVERSITY OF MIAMI

UNIVERSITY OF MIAMI FROST INSTITUTE
FOR CHEMISTRY & MOLECULAR SCIENCE
CORAL GABLES, FL 33146
CONSTRUCTION DOCUMENTS

Comm. No:	17051.01	
Date:	10/30/2020	
Drawn by:	KPS	
Checked by:	KPS	
Revisions		
No	Date	Revision Description
1	10/27/2020	ADDENDUM #1
10	8/28/2020	ADDENDUM #10
12	9/18/2020	ASI #2
13	9/30/2020	ASI #3

TO THE BEST OF MY KNOWLEDGE, THE PLANS
AND SPECIFICATIONS COMPLY WITH THE
MINIMUM BUILDING CODES.



LEGEND	
PROPOSED STORM PIPE	PROPOSED SANITARY SEWER PIPE
PROPOSED WATER PIPE	PROPOSED 12' WATER UTILITY EASEMENT
PROPOSED GAS LINE	PROPOSED WATER/FIRE STRUCTURES
PROPOSED SANITARY STRUCTURES	EXISTING ELECTRICAL
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EXISTING OVERHEAD UTILITY	EXISTING OVERHEAD UTILITY
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EXISTING GAS LINE	EXISTING GAS LINE
EXISTING TREE	G.V.
GATE VALVE	BUTTERFLY VALVE

THIS PAGE IS NOT PART OF
MD-WASD REVIEW NOR APPROVAL



UTILITY PLAN

C-602

HARVARD • JOLLY ARCHITECTURE

AA C00019

Kimley-Horn

UNIVERSITY
OF MIAMI

UNIVERSITY OF MIAMI FROST INSTITUTE
FOR CHEMISTRY & MOLECULAR SCIENCE
UM PROJECT #C741
CONSTRUCTION DOCUMENTS

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Revisions

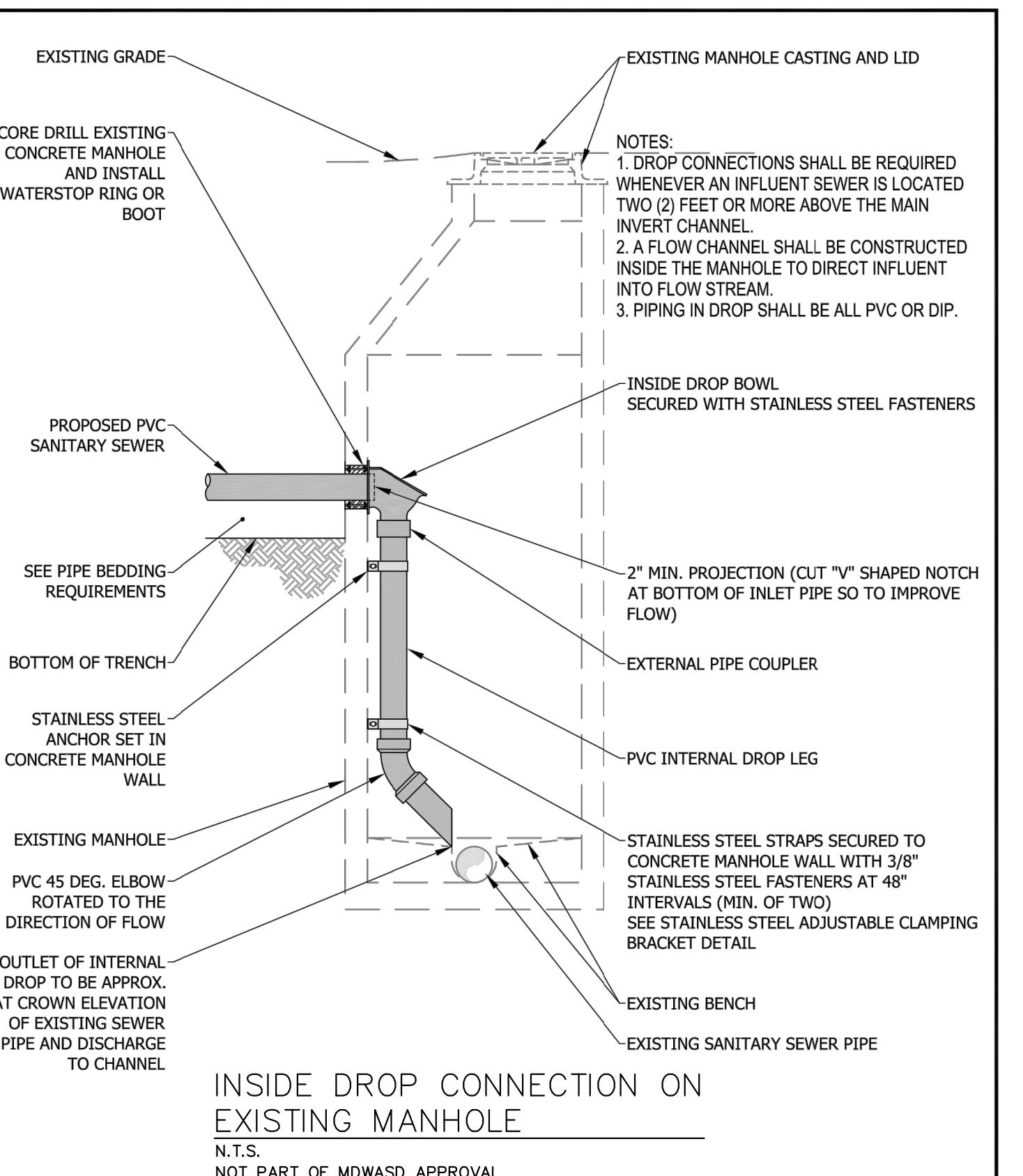
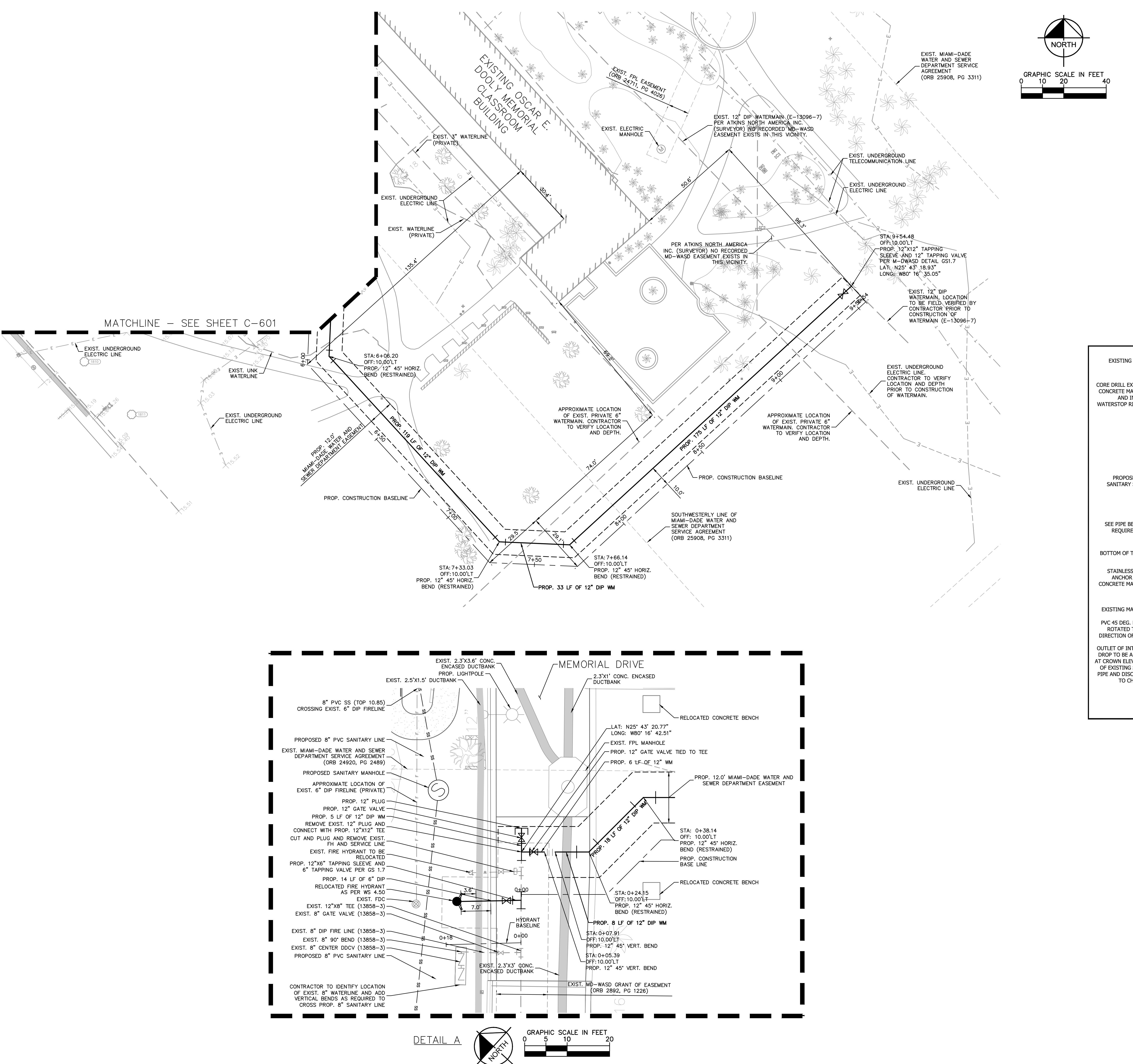
No.	Date	Revision Description
10	8/28/2020	ADDENDUM #10
12	9/18/2020	AS #2
13	9/30/2020	AS #3
14	10/08/2020	AS #4
18	10/30/2020	AS #8

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES

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ASSOCIATES INC

UTILITY PLAN

C-603



7 6 5 4 3 2 1

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PETERSBURG, FL 33704

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AA C00119

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UNIVERSITY OF MIAMI

UNIVERSITY OF MIAMI FROST INSTITUTE
FOR CHEMISTRY & MOLECULAR SCIENCE
UM PROJECT # C741
CONSTRUCTION DOCUMENTS
CORAL GABLES, FL 33146

2714 DR. JULK JR. ST. NORTH, ST.
PETERSBURG, FL 33704

Comm. No.: 17051.01
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Revisions

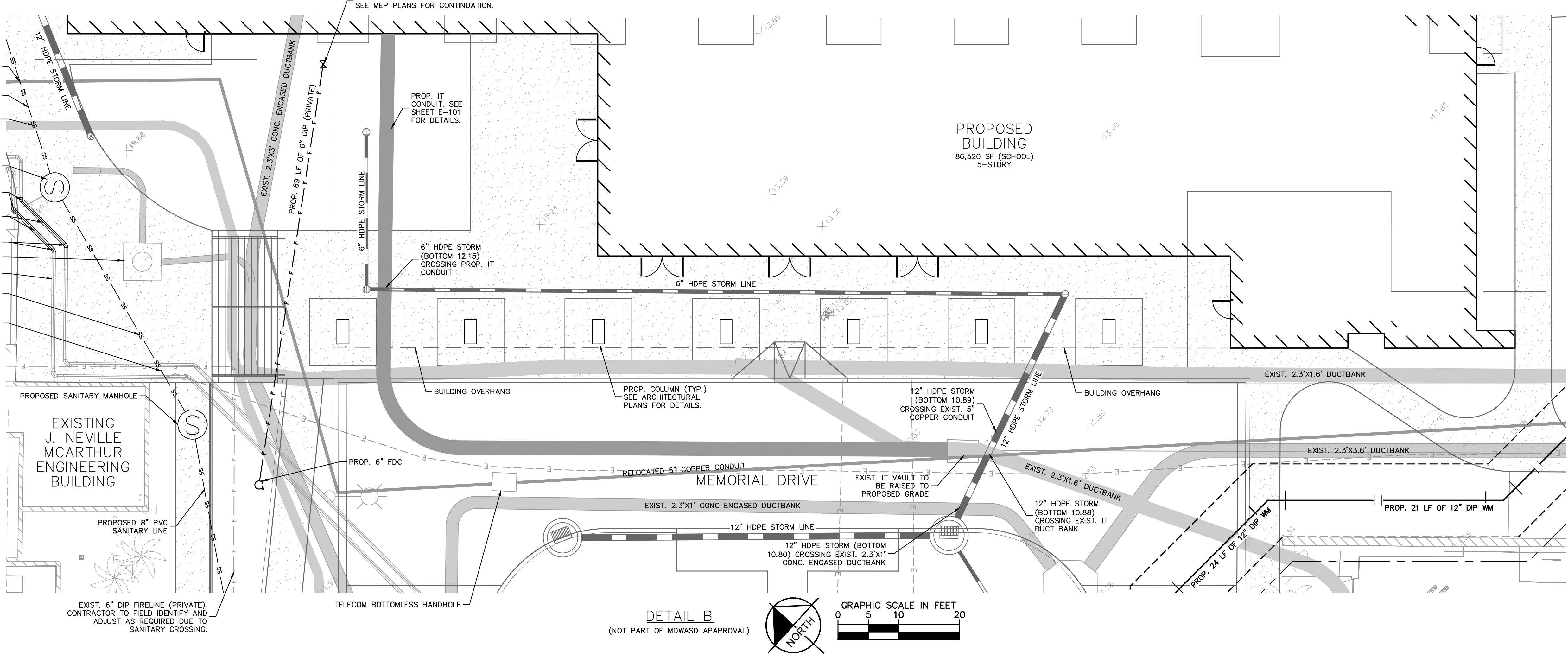
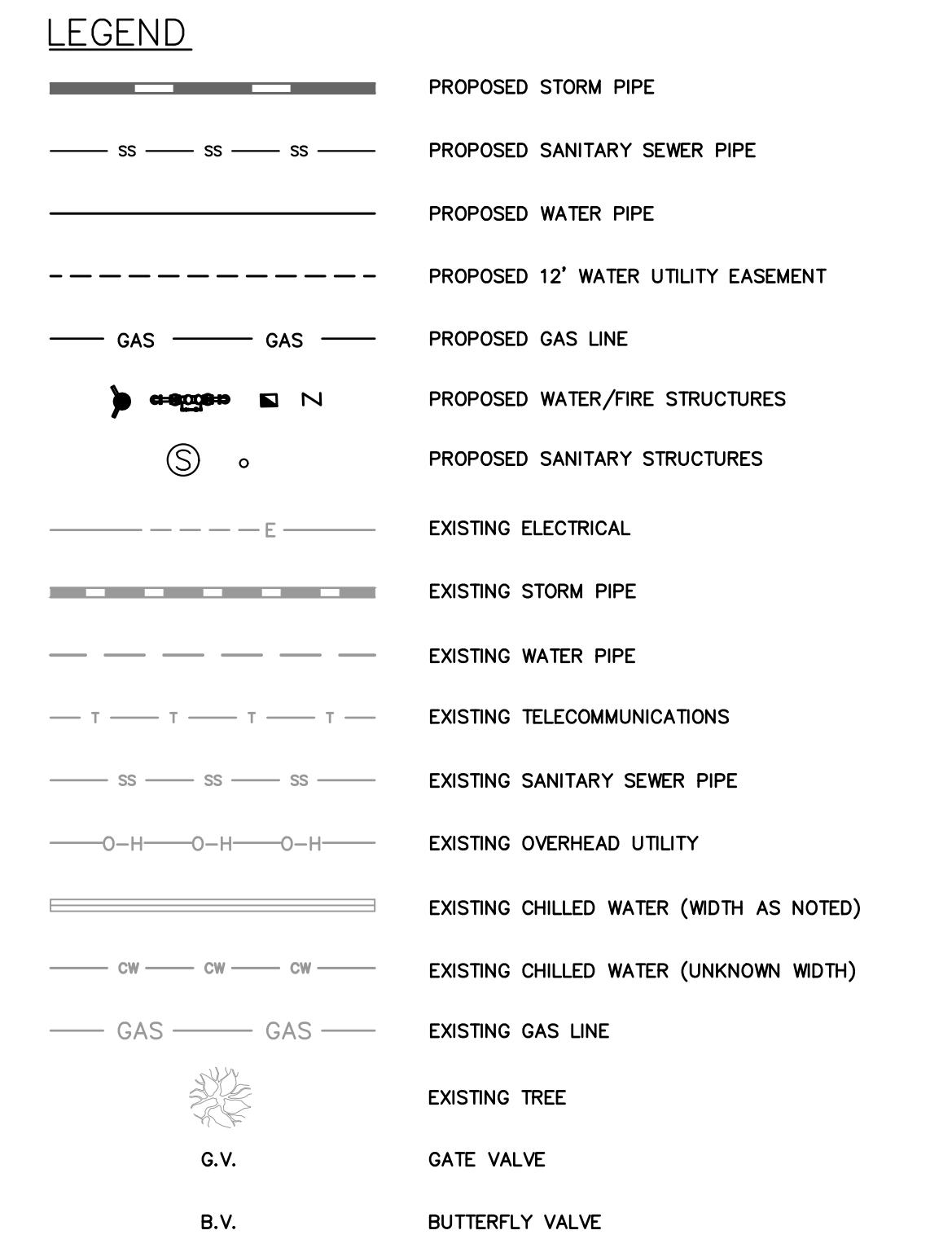
No.	Date	Revision Description
10	8/28/2020	ADDITION #10
12	9/18/2020	AS #2
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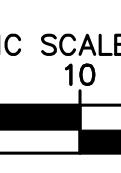
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UTILITY PLAN

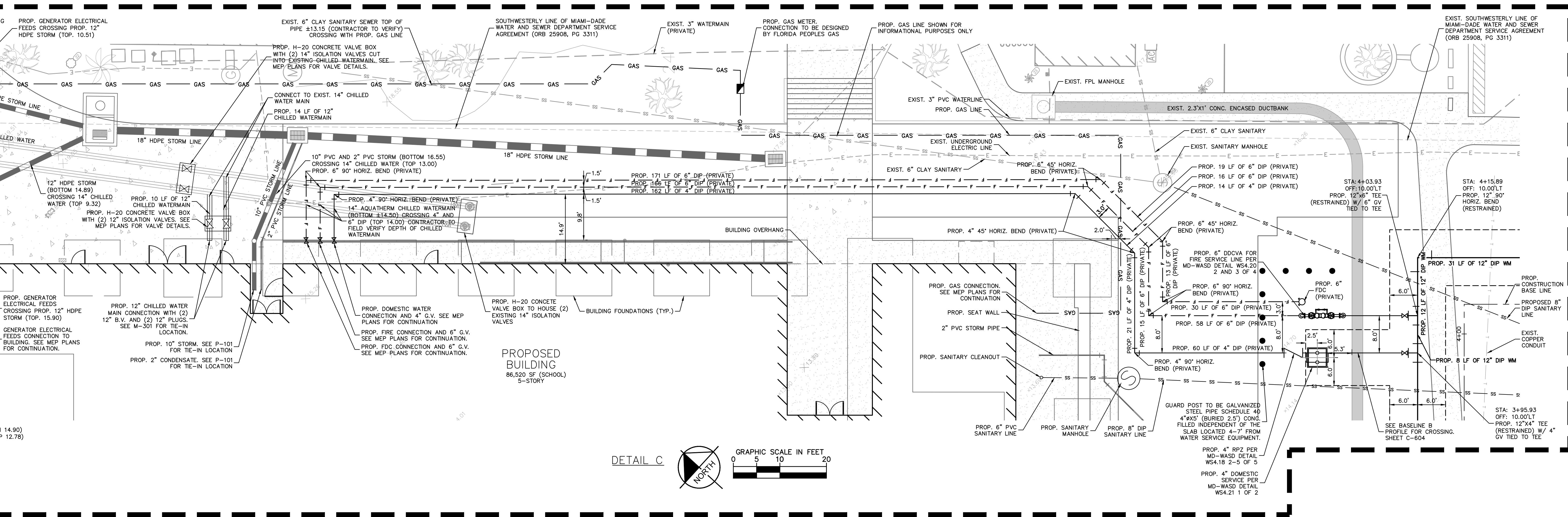
C-604



DETAIL B
(NOT PART OF MDWASD APPROVAL)



GRAPHIC SCALE IN FEET



DETAIL C



GRAPHIC SCALE IN FEET

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 2 WORKING DAYS BEFORE YOU DIG

811

Know what's below.
Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

IT'S THE LAW!
DIAL 811

Vertical Datum:
Elevations shown hereon are based on the National Geodetic Vertical Datum of 1929. NAVD '88 ELEV + 1.552 = NGVD '99 Elevation

AA C00119

HARVARD • JOLLY ARCHITECTURE

AA C00019

Kimley»Horn

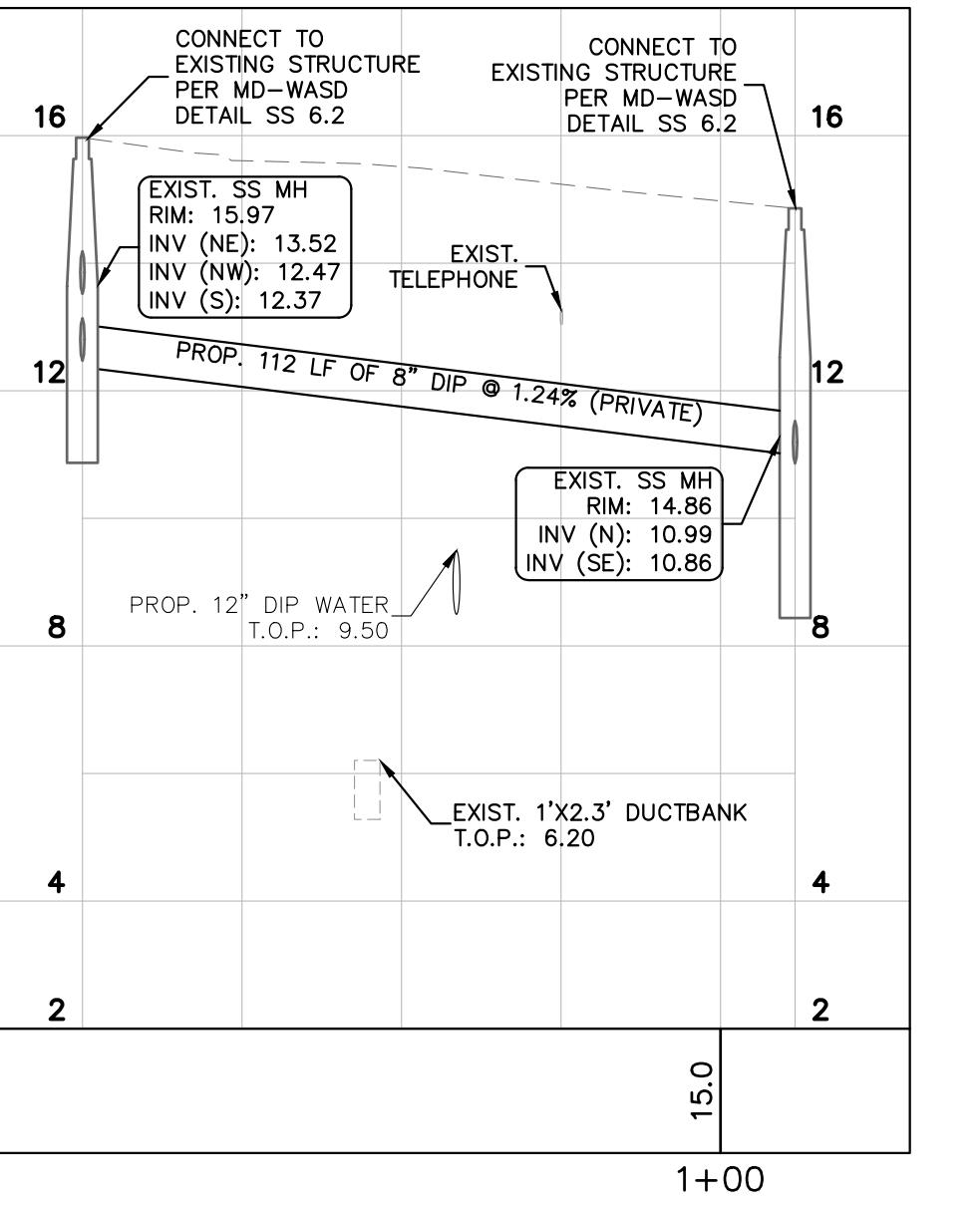
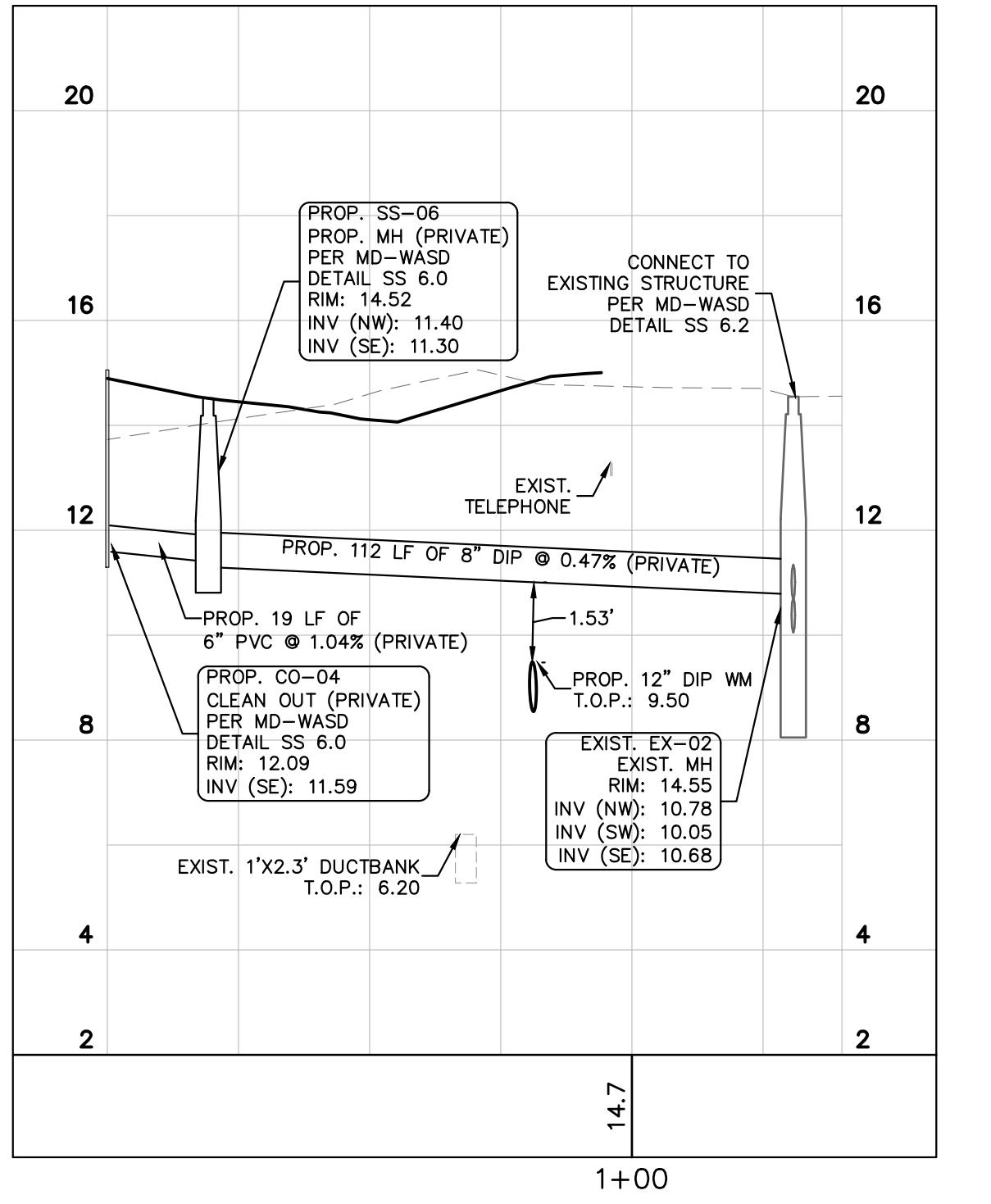
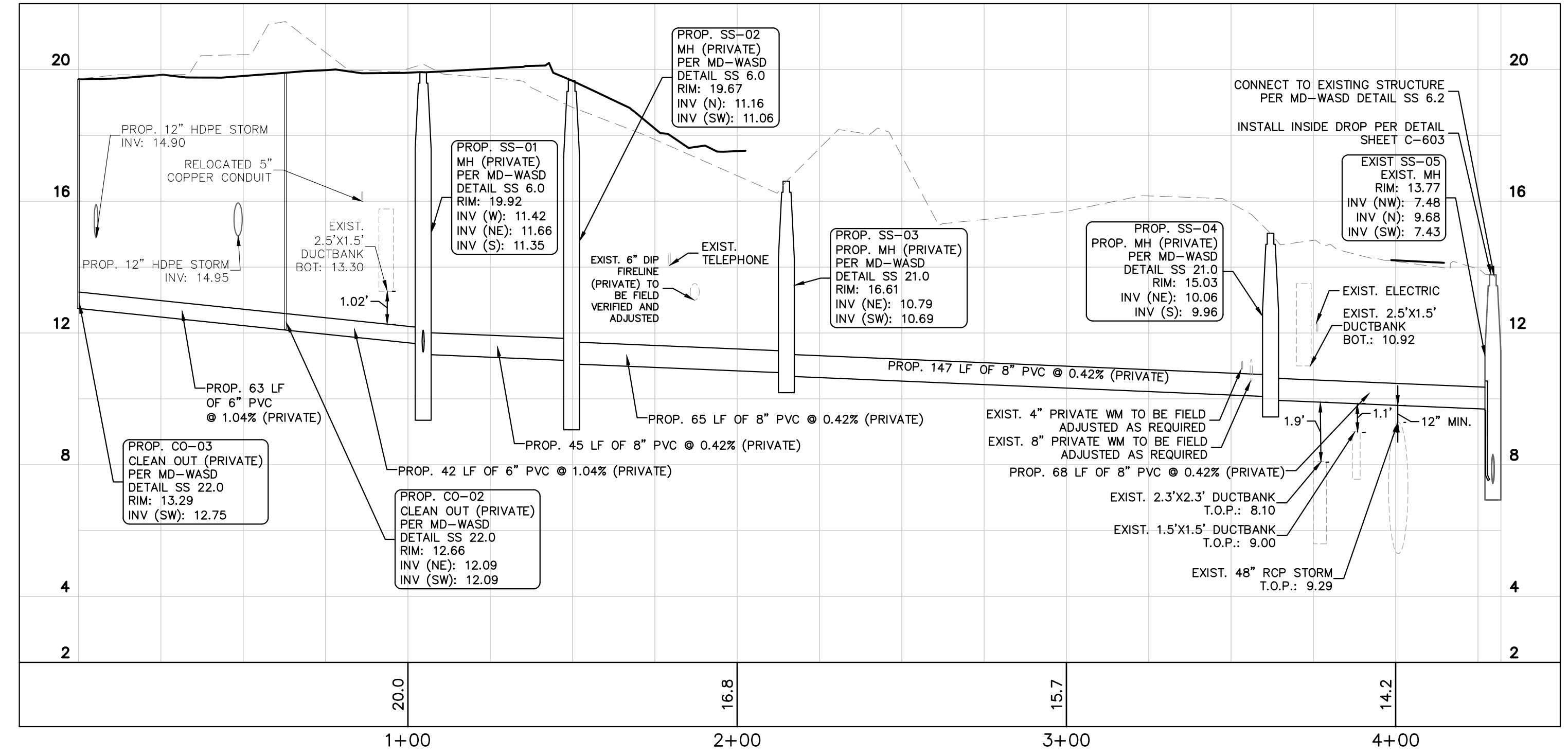
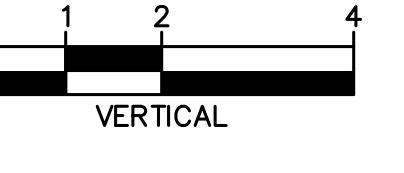
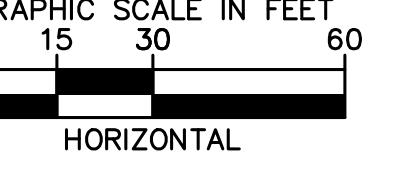
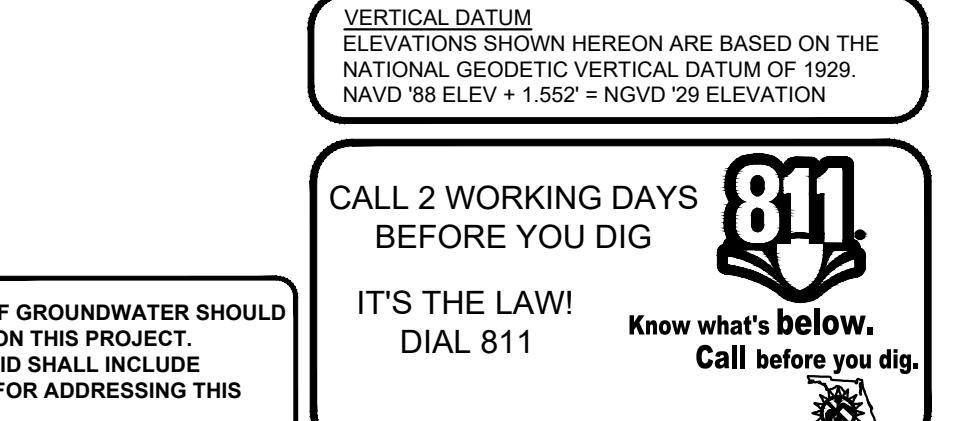
UNIVERSITY
OF MIAMIUNIVERSITY OF MIAMI FROST INSTITUTE
FOR CHEMISTRY & MOLECULAR SCIENCE
UM PROJECT # C741CORAL GABLES, FL 33146
CONSTRUCTION DOCUMENTS

Revisions		
No.	Date	Description
10	8/28/2020	ADDENDUM #10
11	9/15/2020	AS#1
13	9/30/2020	AS#3
14	10/08/2020	AS#4
16	10/19/2020	AS#6
20	12/01/2020	AS#10

TO THE BEST OF MY KNOWLEDGE, THE PLANS
AND SPECIFICATIONS COMPLY WITH THE
MINIMUM BUILDING CODESKIMBERLY P. SEDDON, LIC. # 89205,
© 2020 KIMLEY-HORN &
ASSOCIATES INC

SEWER PROFILE

C-611

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MD-WASD REVIEW NOR APPROVAL.2714 DR. WALK JR. ST. NORTH, ST.
PETERSBURG, FL 33704

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Department of Regulatory and Economic Resources
Division of Environmental Resources Management
Water & Wastewater Division
701 NW 1st Court, 7th Floor
Miami, FL 33136-3912
T (305) 372-6920 F (305) 372-6410

**Domestic Wastewater Collection/Transmission System
Construction Permit**

Permit Number: SE-20200475

Township Range Section: 54-41-19

Project: FROST INSTITUTE OF SCIENCE & ENGINEERING

Permittee

F.D.E.P

Jessica Brumley
UNIVERSITY OF MIAMI
1535 LEVANTE AVENUE
CORAL GABLES, FL 33146

FDEP Permit #: 277169-478-DWC
Date of Issue: 12/11/2020
Expiration Date: 12/10/2025

This permit is issued under the provisions of Chapter(s) 403.087, Florida Statutes and Florida Administrative Code Rule(s) 62-4 and 62-604. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

TO CONSTRUCT:

A wastewater collection/transmission system connecting the proposed project to the MIAMI-DADE WATER AND SEWER DEPARTMENT CENTRAL DISTRICT W. W. T. P. The new Total Average Daily Flow (ADF) is estimated to be 10382.00 GPD. The system will consist of 325 LF of 8-inch PVC, 222 LF of 8-inch DIP, and five (5) manholes.

of Sanitary Manholes: 5

And the following Gravity / Force main lines:

Length (L.F.)	Type	Slope (%)	Diameter (inches)	Material
325	GRAVITY	0.420	8	PVC
112	GRAVITY	1.240	8	DIP
112	GRAVITY	0.470	8	DIP

IN ACCORDANCE WITH:

Permit application on FDEP Form 62-604.300(7) (a) with \$500 application fee on 11/20/2020.

LOCATED AT:

1301 Memorial Drive

TO SERVE:

Proposed Frost Institute of Science & Engineering

SUBJECT TO:

General Conditions 1-15 and Specific Conditions 1-7

General Permit Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions. [62-4.160(1)]
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department. [62-4.160(2)]
3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit. [62-4.160(3)]
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. [62-4.160(4)]
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. [62-4.160(5)]
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules. [62-4.160(6)]
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated. [62-4.160(7)]

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit. [62-4.160(8)]

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules. [62-4.160(9)]
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. [62-4.160(10)]
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department. [62-4.160(11)]
12. This permit or a copy thereof shall be kept at the work site of the permitted activity. [62-4.160(12)]
13. This permit also constitutes:
 - a) Determination of Best Available Control Technology (BACT).
 - b) Determination of Prevention of Significant Deterioration (PSD).
 - c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500).
 - d) Compliance with New Source Performance Standards. [62-4.160(13)]
14. The permittee shall comply with the following:
 - a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c) Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The person responsible for performing the sampling or measurements;

- iii. The dates analyses were performed;
 - iv. The person responsible for performing the analyses;
 - v. The analytical techniques or methods used;
 - vi. The results of such analyses. [62-4.160(14)]
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly. [62-4.160(15)]

Specific Permit Conditions

1. Start of construction prior to fourteen (14) days following to the issuance of this permit is undertaken at owner's risk due to the public's right to object pursuant to Section 120.57 Florida Statutes.
2. This approval is only for the construction of a wastewater collection system and does not relate to the wastewater transmission and treatment aspects. Moreover, this approval does not grant the applicant the right to connect any facilities to be served by this wastewater collection system. In order to connect the applicant shall obtain approval from the receiving utility and a Sewer Capacity Certification Letter (allocation) from DERM, in conformance with the provisions of paragraph 16C of the First Partial Consent Decree (Case No. 93-1109 CIV-MORENO), between the United States of America and Miami-Dade County and section 42.3 of Miami-Dade County Chapter 24. This project will also be contingent upon the placing into service of all the necessary encumbrances by each sanitary sewer utility participating in the transmission of the flows from the point of origin up to the wastewater treatment plant.
3. Provisions must be made to assure uninterrupted service in the area during the time of construction.
4. At the time of certification of construction-completion and release for use application for the operation of this private sanitary sewer system, submit a completed PSO Permit Modification Application form, signed by the current property owner for the DERM-PSO permit (PSO-507). In addition, a REVISED or new Operation and Maintenance Manual (O & M Manual) must also be submitted, for review and approval.
5. A copy of the service agreement between the current property owner and the contractor company(s) providing the services to the sewer system in the property and listed in the PSO Permit Modification Application form shall be submitted for review and approval. The agreement shall be submitted with the PSO application form.
6. **Upon completion of construction of this project, the wastewater collection system shall not be placed into service until the Department has received, reviewed, and approved a completely executed Request for Approval to Place a Domestic Wastewater Collection/Transmission System into Operation, DEP FORM 62-604.300(8)(b); pages 1, 2, and 3 and the following attachments:**
 - a) A completely executed Miami-Dade County, Permitting, Environment and Regulatory Affairs (PERA), Water and Wastewater Engineering Section form: Domestic Wastewater Collection/Transmission Systems Certification of Completion of Construction, page 1 of 1.
 - b) Copy of the infiltration/exfiltration test reports.
 - c) A set of as-built drawings, signed and sealed.
 - d) A Certification Review fee for the amount of \$129.00.

The DEP and the DERM-Domestic Wastewater Collection/Transmission Systems Certification of Completion of Construction forms can be obtained from the County's Web page at:

<http://www.miamidade.gov/permits/home.asp>

- i. Select "Environment" in the first box, then
- ii. Select "One-Time Permits", in the second box, and then scroll down to "Sewer Extension Permit". The Forms are on the right hand side.

DERM shall be notified three (3) days prior to performing infiltration/exfiltration test(s). Notification can be done by emailing Wastewater Permitting Section at PSO@miamidade.gov.

Certification of this project shall not be issued until all Specific Conditions above are submitted and Approved by DERM.

Placing this system into operation without the proper approval from the Department shall constitute a violation of state and county regulations and enforcement actions may be taken accordingly.

11th Day of December, 2020
Miami-Dade County
Permitting, Environment and Regulatory Affairs

For: _____
Lee N. Hefty
Director



Florida Department of Environmental Protection

NOTIFICATION/APPLICATION FOR CONSTRUCTING A DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEM

PART I - GENERAL

Subpart A: Permit Application Type

Permit Application Type (mark one only)	EDUs Served	Application Fee*	"X"
Are you applying for an individual permit for a domestic wastewater collection/transmission system? Note: an EDU is equal to 3.5 persons. Criteria for an individual permit are contained in Rule 62-604.600(7), F.A.C.	≥ 10	\$500	
	< 10	\$300	
Is this a Notice of Intent to use the general permit for wastewater collection/transmission systems? Criteria for qualifying for a general permit are contained in Rule 62-604.600(6), F.A.C. Projects not meeting the criteria in Rule 62-604.600(6), F.A.C., must apply for an individual permit.	N/A	\$250	X

*Note: Each non-contiguous project (i.e., projects that are not interconnected or are not located on adjacent streets or in the same neighborhood) requires a separate application and fee.

Subpart B: Instructions

- (1) This form shall be completed for all domestic wastewater collection/transmission system construction projects as follows:
 - If this is a Notice of Intent to use the general permit, this notification shall be submitted to the Department at least 30 days prior to initiating construction.
 - If this is an application for an individual permit, the permit must be obtained prior to initiating construction.
- (2) One copy of the completed form shall be submitted to the appropriate DEP district office or delegated local program along with the appropriate fee, and one copy of the following supporting documents. Checks should be made payable to the Florida Department of Environmental Protection, or the name of the appropriate delegated local program.
 - If this is a Notice of Intent to use the general permit, attach a site plan or sketch showing the size and approximate location of new or altered gravity sewers, pump stations and force mains; showing the approximate location of manholes and isolation valves; and showing how the proposed project ties into the existing or proposed wastewater facilities. The site plan or sketch shall be signed and sealed by a professional engineer registered in Florida.
 - If this is an application for an individual permit, one set of plans and specifications shall be submitted with this application, or alternatively, an engineering report shall be submitted. Plans and specifications and engineering reports shall be prepared in accordance with the applicable provisions of Chapters 10 and 20 of *Recommended Standards for Wastewater Facilities*. The plans and specifications or engineering report shall be signed and sealed by a Professional Engineer registered in Florida.
- (3) All information shall be typed or printed in ink. Where attached sheets (or other technical documentation) are utilized in lieu of the blank spaces provided, indicate appropriate cross-references on the form. For Items (1) through (4) of Part II of this application form, if an item is not applicable to your project, indicate "NA" in the appropriate space provided.

PART II – PROJECT DOCUMENTATION

(1) Collection/Transmission System Permittee

Name Jessica Brumley Title Vice President, Facilities Operations & Planning
 Company Name University of Miami
 Address 1535 Levante Avenue
 City Coral Gables State FL Zip 33146
 Telephone 305-284-9916 Fax _____ Email j.candela@miami.edu

(2) General Project Information

Project Name Frost Institute of Science & Engineering

Location: County Miami-Dade City Coral Gables Section 19 Township 54S Range 41E

Project Description and Purpose (including pipe length, range of pipe diameter, total number of manholes, and total number of pump stations):

316 LF Private 8" PVC sewer main, 117 LF Private 8" DIP sewer main, 119 LF Private 6" PVC sewer service, 5 private sewer manholes.

Estimated date for: Start of construction Jan 2021 Completion of construction August 2022
 Connections to existing system or treatment plant two

(3) Project Capacity

A = Type of Unit	B = Number of Units	C = Population Per Unit	D = Total Population (Columns B x C)	E = Per Capita Flow	F = Total Average Daily Flow (Columns D x E)	G = Peak hour flow
Single-Family Home						
Mobile Home						
Apartment						
Commercial, Institutional, or Industrial Facility*	<u>86,520 SF</u>				<u>10,382 GPD</u>	<u>XXXX</u>
Total					<u>10,382 GPD</u>	<u>1,834.2 GPD</u>

* Description of commercial, institutional, and industrial facilities and explanation of method used to estimate per capita flow for these facilities:

Per Miami-Dade County's Schedule of Daily Rated Gallonage for Specific Occupancies the proposed project includes: 86,250

SF of school (avg. daily demand of 12 gpd/ 100 sf).

Peaking Factor = 4.24 (SEE ATTACHED CALCULATION)

Peak Hour Flow = 10,382 GPD * 4.24/ 24 hours = 1,834.2 GPD
 (4) Pump Station Data (attached additional sheets as necessary)

Estimated Flow to the Station (GPD)					
Location	Type	Maximum	Average	Minimum	Operating Conditions [GPM @ FT (TDH)]
			N/A		

(5) Collection/Transmission System Design Information

- A. This information must be completed for all projects by the applicant's professional engineer, and if applicable, those professional engineers in other disciplines who assisted with the design of the project.

If this project has been designed to comply with the standards and criteria listed below, the engineer shall initial in ink before the standards or criteria. If any of the standards or criteria do not apply to this project or if this project has not been designed to comply with the standards or criteria, mark "X" before the appropriate standard or criteria and provide an explanation, including any applicable rule references, in (5)B. below.

Note, if the project has not been designed in accordance with the standards and criteria set forth in Rules 62-604.400(1) and (2), F.A.C., an application for an individual permit shall be submitted. However, if Rules 62-604.400(1) and (2), F.A.C., specifically allow for another alternative that will result in an equivalent level of reliability and public health protection, the project can be constructed using the general permit.

General Requirements

- KPS 1. The project is designed based on an average daily flow of 100 gallons per capita plus wastewater flow from industrial plants and major institutional and commercial facilities unless water use data or other justification is used to better estimate the flow. The design includes an appropriate peaking factor, which covers I/I contributions and non-wastewater connections to those service lines. [RSWF 11.243]
- KPS 2. Procedures are specified for operation of the collection/transmission system during construction. [RSWF 20.15]
- KPS 3. The project is designed to be located on public right-of-ways, land owned by the permittee, or easements and to be located no closer than 100 feet from a public drinking water supply well and no closer than 75 feet from a private drinking water supply well; or documentation is provided in Part II.(5)B., showing that another alternative will result in an equivalent level of reliability and public health protection. [62-604.400(1)(b) and (c), F.A.C.]
- KPS 4. The project is designed with no physical connections between a public or private potable water supply system and a sewer or force main and with no water pipes passing through or coming into contact with any part of a sewer manhole. [RSFW 38.1 and 48.5]
- KPS 5. The project is designed to preclude the deliberate introduction of storm water, surface water, groundwater, roof runoff, subsurface drainage, swimming pool drainage, air conditioning system condensate water, non-contact cooling water except as provided by Rule 62-610.668(1), F.A.C., and sources of uncontaminated wastewater, except to augment the supply of reclaimed water in accordance with Rule 62-610.472(3)(c), F.A.C. [62-604.400(1)(d), F.A.C.]
- KPS 6. The project is designed so that all new or relocated, buried sewers and force mains, are located in accordance with the separation requirements from water mains and reclaimed water lines of Rules 62-604.400(2)(g)(h) and (i) and (3), F.A.C. Note, if the criteria of Rules 62-604.400(2)(g) 4. or (2)(i) 3., F.A.C., are used, describe in Part II.(5)B. alternative construction features that will be provided to afford a similar level of reliability and public health protection. [62-604.400(2)(g), (h), and (i) and (3), F.A.C.]

Gravity Sewers

- KPS 7. The project is designed with no public gravity sewer conveying raw wastewater less than 8 inches in diameter. [RSWF 33.1]
- KPS 8. The design considers buoyancy of sewers, and appropriate construction techniques are specified to prevent flotation of the pipe where high groundwater conditions are anticipated. [RSWF 33.3]
- KPS 9. All sewers are designed with slopes to give mean velocities, when flowing full, of not less than 2.0 feet per second, based on Manning's formula using an "n" value of 0.013; or if it is not practicable to maintain these minimum slopes and the depth of flow will be 0.3 of the diameter or greater for design average flow, the owner of the system has been notified that additional sewer maintenance will be required. The pipe diameter and slope are selected to obtain the greatest practical velocities to minimize solids deposition problems. Oversized sewers are not specified to justify flatter slopes. [RSWF 33.41, 33.42, and 33.43]
- KPS 10. Sewers are designed with uniform slope between manholes. [RWSF 33.44]
- X 11. Where velocities greater than 15 fps are designed, provisions to protect against displacement by erosion and impact are specified. [RSWF 33.45]
- X 12. Sewers on 20% slopes or greater are designed to be anchored securely with concrete, or equal, anchors spaced as follows: not over 36 feet center to center on grades 20% and up to 35%; not over 24 feet center to center on grades 35% and up to 50%; and not over 16 feet center to center on grades 50% and over. [RSWF 33.46]

13. Sewers 24 inches or less are designed with straight alignment between manholes. Where curvilinear sewers are proposed for sewers greater than 24 inches, the design specifies compression joints; ASTM or specific pipe manufacturer's maximum allowable pipe joint deflection limits are not exceeded; and curvilinear sewers are limited to simple curves which start and end at manholes. [RSWF 33.5]
14. Suitable couplings complying with ASTM specifications are required for joining dissimilar materials. [RSWF 33.7]
15. Sewers are designed to prevent damage from superimposed loads. [RSWF 33.7]
16. Appropriate specifications for the pipe and methods of bedding and backfilling are provided so as not to damage the pipe or its joints, impede cleaning operations and future tapping, nor create excessive side fill pressures and ovalation of the pipe, nor seriously impair flow capacity. [RSWF 33.81]
17. Appropriate deflection tests are specified for all flexible pipe. Testing is required after the final backfill has been in place at least 30 days to permit stabilization of the soil-pipe system. Testing requirements specify: 1) no pipe shall exceed a deflection of 5%; 2) using a rigid ball or mandrel for the deflection test with a diameter not less than 95% of the base inside diameter or average inside diameter of the pipe, depending on which is specified in the ASTM specification, including the appendix, to which the pipe is manufactured; and 3) performing the test without mechanical pulling devices. [RSWF 33.85]
18. Leakage tests are specified requiring that: 1) the leakage exfiltration or infiltration does not exceed 200 gallons per inch of pipe diameter per mile per day for any section of the system; 2) exfiltration or infiltration tests be performed with a minimum positive head of 2 feet; and 3) air tests, as a minimum, conform to the test procedure described in ASTM C-828 for clay pipe, ASTM C 924 for concrete pipe, ASTM F-1417 for plastic pipe, and for other materials appropriate test procedures. [RSWF 33.93, 33.94, and 33.95]
19. If an inverted siphon is proposed, documentation of its need is provided in Part II.(5)BC. Inverted siphons are designed with: 1) at least two barrels; 2) a minimum pipe size of 6 inches; 3) necessary appurtenances for maintenance, convenient flushing, and cleaning equipment; and 4) inlet and discharge structures having adequate clearances for cleaning equipment, inspection, and flushing. Design provides sufficient head and appropriate pipe sizes to secure velocities of at least 3.0 fps for design average flows. The inlet and outlet are designed so that the design average flow may be diverted to one barrel, and that either barrel may be cut out of service for cleaning. [RSWF 35]

Manholes

20. The project is designed with manholes at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 400 feet for sewers 15 inches or less and 500 feet for sewers 18 inches to 30 inches, except in the case where adequate modern cleaning equipment is available at distances not greater than 600 feet. [RSWF 34.1]
21. Design requires drop pipes to be provided for sewers entering manholes at elevations of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert is designed with a fillet to prevent solids deposition. Inside drop connections (when necessary) are designed to be secured to the interior wall of the manhole and provide access for cleaning. Design requires the entire outside drop connection be encased in concrete. [RSWF 34.2]
22. Manholes are designed with a minimum diameter of 48 inches and a minimum access diameter of 22 inches. [RSWF 34.3]
23. Design requires that a bench be provided on each side of any manhole channel when the pipe diameter(s) are less than the manhole diameter and that no lateral sewer, service connection, or drop manhole pipe discharges onto the surface of the bench. [RSWF 34.5]
24. Design requires: 1) manhole lift holes and grade adjustment rings be sealed with non-shrinking mortar or other appropriate material; 2) inlet and outlet pipes be joined to the manhole with a gasketed flexible watertight connection or another watertight connection arrangement that allows differential settlement of the pipe and manhole wall; and 3) watertight manhole covers be used wherever the manhole tops may be flooded by street runoff or high water. [RSWF 34.6]
25. Manhole inspection and testing for watertightness or damage prior to placing into service are specified. Air testing, if specified for concrete sewer manholes, conforms to the test procedures described in ASTM C-1244. [RSWF 34.7]
26. Electrical equipment specified for use in manholes is consistent with Item 46 of this checklist. [RSWF 34.9]

Stream Crossings

- 27. Sewers and force mains entering or crossing streams are designed to be constructed of ductile iron pipe with mechanical joints so they will remain watertight and free from changes in alignment or grade. Appropriate materials which will not readily erode, cause siltation, damage pipe during placement, or corrode the pipe are specified to backfill the trench. [RSWF 36.21 and 48.5]
- 28. Stream crossings are designed to incorporate valves or other flow regulating devices (which may include pump stations) on the shoreline or at such distances from the shoreline to prevent discharge in the event the line is damaged. [62-604.400(2)(k)5., F.A.C.]
- 29. Sewers and force mains entering or crossing streams are designed at a sufficient depth below the natural bottom of the stream bed to protect the line. At a minimum, the project is designed with subaqueous lines to be buried at least three feet below the design or actual bottom, whichever is deeper, of a canal and other dredged waterway or the natural bottom of streams, rivers, estuaries, bays, and other natural water bodies; or if it is not practicable to design the project with less than three-foot minimum cover, alternative construction features (e.g. a concrete cap, sleeve, or some other properly engineered device to insure adequate protection of the line) are described in Part II.C. [62-604.400(2)(k)1., F.A.C., and RSWF 36.11]
- 30. Specifications require permanent warning signs be placed on the banks of canals, streams, and rivers clearly identifying the nature and location (including depths below design or natural bottom) of subaqueous crossings and suitably fixed signs be placed at the shore, for subaqueous crossings of lakes, bays, and other large bodies of water, and in any area where anchoring is normally expected. [62-604.400(2)(k)2., F.A.C.]
- 31. Provisions for testing the integrity of subaqueous lines are specified. [62-604.400(2)(k)4., F.A.C.]
- 32. Supports are designed for all joints in pipes utilized for aerial crossings and to prevent overturning and settlement. Expansion jointing is specified between above ground and below ground sewers and force mains. The design considers the impact of floodwaters and debris. [RSWF 37 and 48.5]
- 33. Aerial crossings are designed to maintain existing or required navigational capabilities within the waterway and to reserve riparian rights of adjacent property owners. [62-604.400(2)(k)3., F.A.C.]

Pump Stations

- 34. In areas with high water tables, pump stations are designed to withstand flotation forces when empty. When siting the pump station, the design considers the potential for damage or interruption of operation because of flooding. Pump station structures and electrical and mechanical equipment are designed to be protected from physical damage by the 100-year flood. Pump stations are designed to remain fully operational and accessible during the 25-year flood unless lesser flood levels are appropriate based on local considerations, but not less than the 10-year flood. [62-604.400(2)(e), F.A.C.]
- 35. Pump stations are designed to be readily accessible by maintenance vehicles during all weather conditions. [RSWF 41.2]
- 36. Wet well and pump station piping is designed to avoid operational problems from the accumulation of grit. [RSWF 41.3]
- 37. Dry wells, including their superstructure, are designed to be completely separated from the wet well. Common walls are designed to be gas tight. [RSWF 42.21]
- 38. The design includes provisions to facilitate removing pumps, motors, and other mechanical and electrical equipment. [RSWF 42.22]

- 39. The design includes provisions for: 1) suitable and safe means of access for persons wearing self-contained breathing apparatus are provided to dry wells, and to wet wells; 2) stairway access to wet wells more than 4 feet deep containing either bar screens or mechanical equipment requiring inspection or maintenance; 3) for built-in-place pump stations, a stairway to the dry well with rest landings at vertical intervals not to exceed 12 feet; 4) for factory-built pump stations over 15 feet deep, a rigidly fixed landing at vertical intervals not to exceed 10 feet unless a manlift or elevator is provided; and 5) where a landing is used, a suitable and rigidly fixed barrier to prevent an individual from falling past the intermediate landing to a lower level. If a manlift or elevator is provided, emergency access is included in the design. [RSWF 42.23]
- 40. Specified construction materials are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. [RSWF 42.25]
- 41. Except for low-pressure grinder or STEP systems, multiple pumps are specified, and each pump has an individual intake. Where only two units are specified, they are of the same size. Specified units have capacity such that, with any unit out of service, the remaining units will have capacity to handle the design peak hourly flow. [RSWF 42.31 and 42.36]
- 42. Bar racks are specified for pumps handling wastewater from 30 inch or larger diameter sewers. Where a bar rack is specified, a mechanical hoist is also provided. The design includes provisions for appropriate protection from clogging for small pump stations. [RSWF 42.322]
- 43. Pumps handling raw wastewater are designed to pass spheres of at least 3 inches in diameter. Pump suction and discharge openings are designed to be at least 4 inches in diameter. [RSWF 42.33] (Note, this provision is not applicable to grinder pumps.)
- 44. The design requires pumps be placed such that under normal operating conditions they will operate under a positive suction head, unless pumps are suction-lift pumps. [RSWF 42.34]
- 45. The design requires: 1) pump stations be protected from lightning and transient voltage surges; and 2) pump stations be equipped with lightning arrestors, surge capacitors, or other similar protection devices and phase protection. Note, pump stations serving a single building are not required to provide surge protection devices if not necessary to protect the pump station. [62-604.400(2)(b), F.A.C.]
- 46. The design requires 1) electrical systems and components (e.g., motors, lights, cables, conduits, switch boxes, control circuits, etc.) in raw wastewater wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present, comply with the National Electrical Code requirements for Class I Group D, Division 1 locations; 2) electrical equipment located in wet wells be suitable for use under corrosive conditions; 3) each flexible cable be provided with a watertight seal and separate strain relief; 4) a fused disconnect switch located above ground be provided for the main power feed for all pump stations; 5) electrical equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4; 6) a 110 volt power receptacle to facilitate maintenance be provided inside the control panel for pump stations that have control panels outdoors; and 7) ground fault interruption protection be provided for all outdoor outlets. [RSWF 42.35]
- 47. The design requires a sump pump equipped with dual check valves be provided in dry wells to remove leakage or drainage with discharge above the maximum high water level of the wet well. [RSWF 42.37]
- 48. Pump station design capacities are based on the peak hourly flow and are adequate to maintain a minimum velocity of 2 feet per second in the force main. [RSWF 42.38]
- 49. The design includes provisions to automatically alternate the pumps in use. [RSWF 42.4]
- 50. The design requires: 1) suitable shutoff valves be placed on the suction line of dry pit pumps; 2) suitable shutoff and check valves be placed on the discharge line of each pump (except on screw pumps); 3) a check valve be located between the shutoff valve and the pump; 4) check valves be suitable for the material being handled; 5) check valves be placed on the horizontal portion of discharge piping (except for ball checks, which may be placed in the vertical run); 6) all valves be capable of withstanding normal pressure and water hammer; and 7) all shutoff and check valves be operable from the floor level and accessible for maintenance. [RSWF 42.5]
- 51. The effective volume of wet wells is based on design average flows and a filling time not to exceed 30 minutes unless the facility is designed to provide flow equalization. The pump manufacturer's duty cycle recommendations were utilized in selecting the minimum cycle time. [RSWF 42.62]
- 52. The design requires wet well floors have a minimum slope of 1 to 1 to the hopper bottom and the horizontal area of hopper bottoms be no greater than necessary for proper installation and function of the inlet. [RSWF 42.63]

- 53. For covered wet wells, the design provides for air displacement to the atmosphere, such as an inverted "j" tube or other means. [RSWF 42.64]
- 54. The design provides for adequate ventilation all pump stations; mechanical ventilation where the dry well is below the ground surface; permanently installed ventilation if screens or mechanical equipment requiring maintenance or inspection are located in the wet well. Pump stations are designed with no interconnection between the wet well and dry well ventilation systems. [RSWF 42.71]
- 55. The design requires all intermittently operated ventilation equipment to be interconnected with the respective pit lighting system and the manual lighting/ventilation switch to override the automatic controls. [RSWF 42.73]
- 56. The design requires the fan wheels of ventilation systems be fabricated from non-sparking material and automatic heating and dehumidification equipment be provided in all dry wells. [RSWF 42.74]
- 57. If wet well ventilation is continuous, design provides for at least 12 complete 100% fresh air changes per hour; if wet well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour; and design requires air to be forced into wet wells by mechanical means rather than solely exhausted from the wet well. [RSWF 42.75]
- 58. If dry well ventilation is continuous, design provides at least 6 complete 100% fresh air changes per hour; and dry well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour, unless a system of two speed ventilation with an initial ventilation rate of 30 changes per hour for 10 minutes and automatic switch over to 6 changes per hour is used to conserve heat. [RSWF 42.76]
- 59. Pump stations are designed and located on the site to minimize adverse effects from odors, noise, and lighting. [62-604.400(2)(c), F.A.C.]
- 60. The design requires pump stations be enclosed with a fence or otherwise designed with appropriate features to discourage the entry of animals and unauthorized persons. Posting of an unobstructed sign made of durable weather resistant material at a location visible to the public with a telephone number for a point of contact in case of emergency is specified. [62-604.400(2)(d), F.A.C.]
- 61. The design requires suitable devices for measuring wastewater flow at all pump stations. Indicating, totalizing, and recording flow measurement are specified for pump stations with a 1200 gpm or greater design peak flow. [RSWF 42.8]
- 62. The project is designed with no physical connections between any potable water supplies and pump stations. If a potable water supply is brought to a station, reduced-pressure principle backflow-prevention assemblies are specified. [RSWF 42.9 and 62-555.30(4), F.A.C.]

Additional Items to be Completed for Suction-Lift Pump Stations

- 63. The design requires all suction-lift pumps to be either self-priming or vacuum-priming and the combined total of dynamic suction-lift at the "pump off" elevation and required net positive suction head at design operating conditions not to exceed 22 feet. For self-priming pumps, the design requires: 1) pumps be capable of rapid priming and repriming at the "lead pump on" elevation with self-priming and repriming accomplished automatically under design operating conditions; 2) suction piping not to exceed the size of the pump suction or 25 feet in total length; and 3) priming lift at the "lead pump on" elevation to include a safety factor of at least 4 feet from the maximum allowable priming lift for the specific equipment at design operating conditions. For vacuum-priming pump stations, the design requires dual vacuum pumps capable of automatically and completely removing air from the suction-lift pumps and the vacuum pumps be adequately protected from damage due to wastewater. [RSWF 43.1]
- 64. The design requires: 1) suction-lift pump equipment compartments to be above grade or offset and to be effectively isolated from the wet well to prevent a hazardous and corrosive sewer atmosphere from entering the equipment compartment; 2) wet well access not to be through the equipment compartment and to be at least 24 inches in diameter; 3) gasketed replacement plates be provided to cover the opening to the wet well for pump units to be removed for service; and 4) no valving be located in the wet well. [RSWF 43.2]

Additional Items to be Completed for Submersible Pump Stations

- 65. Submersible pumps and motors are designed specifically for raw wastewater use, including totally submerged operation during a portion of each pump cycle and to meet the requirements of the National Electrical Code for such units. Provisions for detecting shaft seal failure or potential seal failure are included in the design. [RSWF 44.1]
- 66. The design requires submersible pumps be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well. [RSWF 44.2]
- 67. In submersible pump stations, electrical supply, control, and alarm circuits are designed to provide strain relief; to allow disconnection from outside the wet well; and to protect terminals and connectors from corrosion by location outside the wet well or through use of watertight seals. [RSWF 44.31]
- 68. In submersible pump stations, the design requires the motor control center to be located outside the wet well, readily accessible, and protected by a conduit seal or other appropriate measures meeting the requirements of the National Electrical Code, to prevent the atmosphere of the wet well from gaining access to the control center. If a seal is specified, the motor can be removed and electrically disconnected without disturbing the seal. The design requires control equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4. [RSWF 44.32]
- 69. In submersible pump stations, the design requires: 1) pump motor power cords be flexible and serviceable under conditions of extra hard usage and to meet the requirements of the National Electrical Code standards for flexible cords in wastewater pump stations; 2) ground fault interruption protection be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable; and 3) power cord terminal fittings be corrosion-resistant and constructed in a manner to prevent the entry of moisture into the cable, provided with strain relief appurtenances, and designed to facilitate field connecting. [RSWF 44.33]
- 70. In submersible pump stations, the design requires all shut-off and check valves be located in a separate valve pit. Provisions to remove or drain accumulated water from the valve pit are included in the design. [RSWF 44.4]

Emergency Operations for Pump Stations

- 71. Pump stations are designed with an alarm system which activates in cases of power failure, sump pump failure, pump failure, unauthorized entry, or any cause of pump station malfunction. Pump station alarms are designed to be telemetered to a facility that is manned 24 hours a day. If such a facility is not available and a 24-hour holding capacity is not provided, the alarm is designed to be telemetered to utility offices during normal working hours and to the home of the responsible person(s) in charge of the lift station during off-duty hours. Note, if an audio-visual alarm system with a self-contained power supply is provided in lieu of a telemetered system, documentation is provided in Part II.(5)BG. showing an equivalent level of reliability and public health protection. [RSWF 45]
- 72. The design requires emergency pumping capability be provided for all pump stations. For pump stations that receive flow from one or more pump stations through a force main or pump stations discharging through pipes 12 inches or larger, the design requires uninterrupted pumping capability be provided, including an in-place emergency generator. Where portable pumping and/or generating equipment or manual transfer is used, the design includes sufficient storage capacity with an alarm system to allow time for detection of pump station failure and transportation and connection of emergency equipment. [62-604.400(2)(a)1. and 2., F.A.C., and RSWF 46.423 and 46.431]
- 73. The design requires: 1) emergency standby systems to have sufficient capacity to start up and maintain the total rated running capacity of the station, including lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation; 2) special sequencing controls be provided to start pump motors unless the generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating; 3) a riser from the force main with rapid connection capabilities and appropriate valving be provided for all pump stations to hook up portable pumps; and 4) all pump station reliability design features be compatible with the available temporary service power generating and pumping equipment of the authority responsible for operation and maintenance of the collection/transmission system. [62-604.400(2)(a)3., F.A.C., and RSWF 46.431]
- 74. The design provides for emergency equipment to be protected from operation conditions that would result in damage to the equipment and from damage at the restoration of regular electrical power. [RSWF 46.411, 46.417, and 46.432]

- 75. For permanently-installed internal combustion engines, underground fuel storage and piping facilities are designed in accordance with applicable state and federal regulations; and the design requires engines to be located above grade with adequate ventilation of fuel vapors and exhaust gases. [RSWF 46.414 and 46.415]
- 76. For permanently-installed or portable engine-driven pumps are used, the design includes provisions for manual start-up. [RSWF 46.422]
- 77. Where independent substations are used for emergency power, each separate substation and its associated transmission lines is designed to be capable of starting and operating the pump station at its rated capacity. [RSWF 46.44]

Force Mains

- 78. Force mains are designed to maintain, at design pumping rates, a cleansing velocity of at least 2 feet per second. The minimum force main diameter specified for raw wastewater is not less than 4 inches. [RSWF 48.1]
- 79. The design requires: 1) branches of intersecting force mains be provided with appropriate valves such that one branch may be shut down for maintenance and repair without interrupting the flow of other branches; and 2) stubouts on force mains, placed in anticipation of future connections, be equipped with a valve to allow such connection without interruption of service. [62-604.400(2)(f), F.A.C.]
- 80. The design requires air relief valves be placed at high points in the force main to prevent air locking. [RSWF 48.2]
- 81. Specified force main pipe and joints are equal to water main strength materials suitable for design conditions. The force main, reaction blocking, and station piping are designed to withstand water hammer pressures and stresses associated with the cycling of wastewater pump stations. [RSWF 48.4]
- 82. When the Hazen and Williams formula is used to calculate friction losses through force mains, the value for "C" is 100 for unlined iron or steel pipe for design. For other smooth pipe materials, such as PVC, polyethylene, lined ductile iron, the value for C does not exceed 120 for design. [RSWF 48.61]
- 83. Where force mains are constructed of material, which might cause the force main to be confused with potable water mains, specifications require the force main to be clearly identified. [RSWF 48.7]
- 84. Leakage tests for force mains are specified including testing methods and leakage limits. [RSWF 48.8]

*RSWF = Recommended Standards for Wastewater Facilities (1997) as adopted by rule 62-604.300(5)(g), F.A.C.

B. Explanation for Requirements or Standards Marked "X" in II(5)A. Above (Attach additional sheets if necessary):

11. No velocities greater than 15fps on the project.
12. No sewers on slopes greater than 20% on this project.
19. No inverted siphons on this project.
26. No electrical equipment specified for use in manholes on this project.
27. thru 33. No stream crossings on this project.
34. thru 77. No pump stations on this project.
78. thru 84. No force mains on this project.

PART III - CERTIFICATIONS

(1) Collection/Transmission System Permittee

I, the undersigned owner or authorized representative* of University of Miami

am fully aware that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. I agree to retain the design engineer or another professional engineer registered in Florida, to conduct on-site observation of construction, to prepare a certification of completion of construction, and to review record drawings for adequacy. Further, I agree to provide an appropriate operation and maintenance manual for the facilities pursuant to Rule 62-604.500(4), F.A.C., and to retain a professional engineer registered in Florida to examine (or to prepare if desired) the manual. I am fully aware that Department approval must be obtained before this project is placed into service for any purpose other than testing for leaks and testing equipment operation.

Signed

Name

Jessica Brumley

*Attach a letter of authorization.

Date

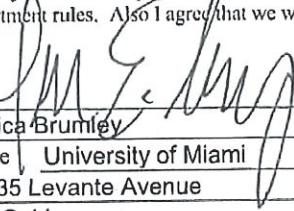
Title

10/19/20

Vice President - Facilities Operations & Planning

(2) Owner of Collection/Transmission System

I, the undersigned owner or authorized representative* of University of Miami certify that we will be the Owner of this project after it is placed into service. I agree that we will operate and maintain this project in a manner that will comply with applicable Department rules. Also I agree that we will promptly notify the Department if we sell or legally transfer ownership of this project.

Signed  Date 10/19/20
Name Jessica Brumley Title Vice President, Facilities Operations & Planning
Company Name University of Miami
Address 1535 Levante Avenue
City Coral Gables State FL Zip 33146
Telephone 305-284-9916 Fax _____ Email j.candela@miami.edu

* Attach a letter of authorization. ASB

(3) Wastewater Facility Serving Collection/Transmission System**

If this is a Notice of Intent to use a general permit, check here:

The undersigned owner or authorized representative* of the ALEXANDER ORR N.T.P. wastewater facility hereby certifies that the above referenced facility has the capacity to receive the wastewater generated by the proposed collection system; is in compliance with the capacity analysis report requirements of Rule 62-600.405, F.A.C.; is not under a Department order associated with effluent violations or the ability to treat wastewater adequately; and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

If this is an application for an individual permit, check one:

The undersigned owner or authorized representative* of the _____ wastewater facility hereby certifies that the above referenced facility has and will have adequate reserve capacity to accept the flow from this project and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

The undersigned owner or authorized representative* of the _____ wastewater facility hereby certifies that the above referenced facility currently does not have, but will have prior to placing the proposed project into operation, adequate reserve capacity to accept the flow from this project and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

Name of Treatment Plant Serving Project _____
County _____ City _____
DEP permit number FL Expiration Date _____
Maximum monthly average daily flow over the last 12 month period MGD Month(s) used _____
Maximum three-month average daily flow over the last 12 month period MGD _____
Current permitted capacity MGD AADF

WAJSD SIGNATURE
REQUIRED

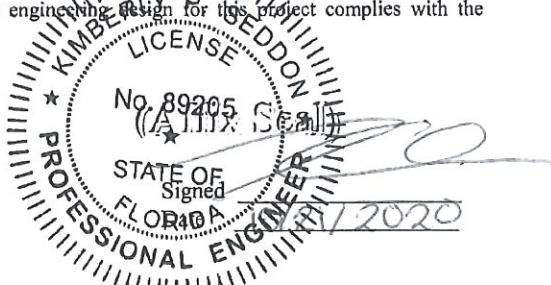
Signed _____ Date _____
Name Satyen Thakar, P.E. Title Plan Review Unit Supervisor
Address 3575 S. Le Jeune Rd.
City Miami State FL Zip 33133
Telephone 786-268-5139 Fax 786-268-5161 Email satyen.thaker@miamidade.gov

* Attach a letter of authorization.

** If there is an intermediate collection system, a letter shall be attached certifying that the intermediate downstream collection system has adequate reserve capacity to accept the flow from this project.

(4) Professional Engineer Registered in Florida

I, the undersigned professional engineer registered in Florida, certify that I am in responsible charge of the preparation and production of engineering documents for this project; that plans and specifications for this project have been completed; that I have expertise in the design of wastewater collection/transmission systems; and that, to the best of my knowledge and belief, the engineering design for this project complies with the requirements of Chapter 62-604, F.A.C.



Name Kimberly P. Seddon, P.E. Florida Registration No. 89205
Company Name Kimley-Horn and Associates, Inc.
Address 1615 South Congress Avenue, Suite 201
City Delray Beach State FL Zip 33445
Telephone 561-330-2345 Fax Email kimberly.seddon@kimley-horn.com
Portion of Project for Which Responsible Civil Engineering Plans

(Affix Seal)

Signed _____
Date _____

Name _____ Florida Registration No. _____
Company Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Fax _____ Email _____
Portion of Project for Which Responsible _____

(Affix Seal)

Signed _____
Date _____

Name _____ Florida Registration No. _____
Company Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Fax _____ Email _____
Portion of Project for Which Responsible _____